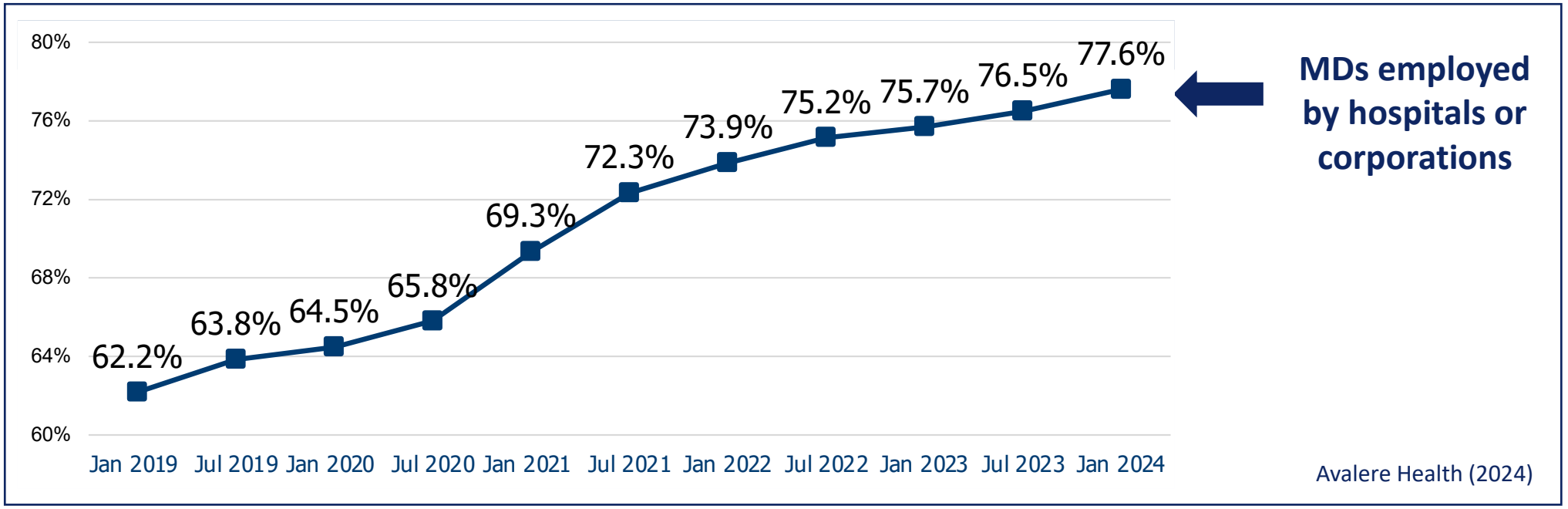
Private Equity in Health Care

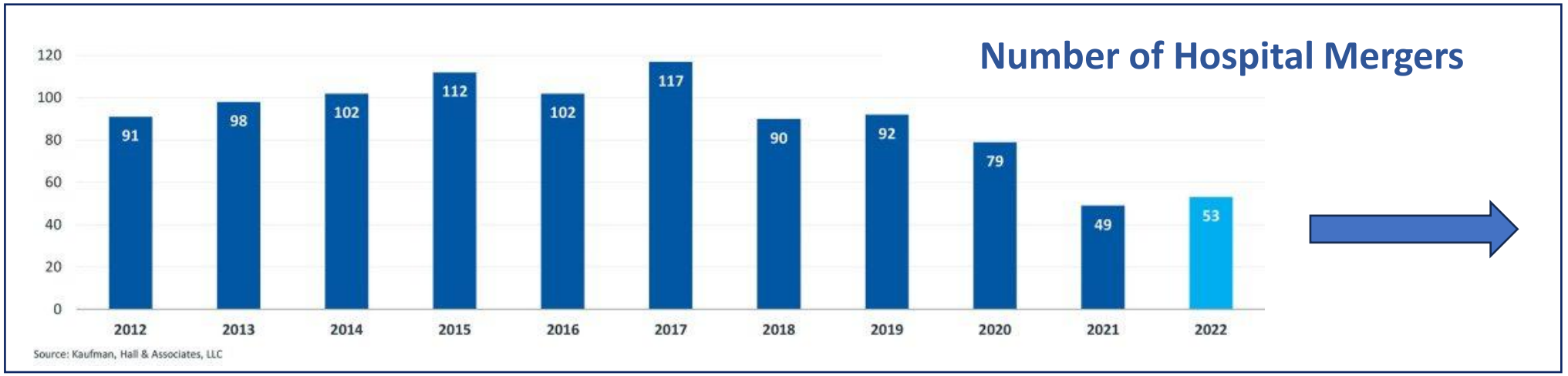
Vermont House Health Care Committee

January 21, 2026

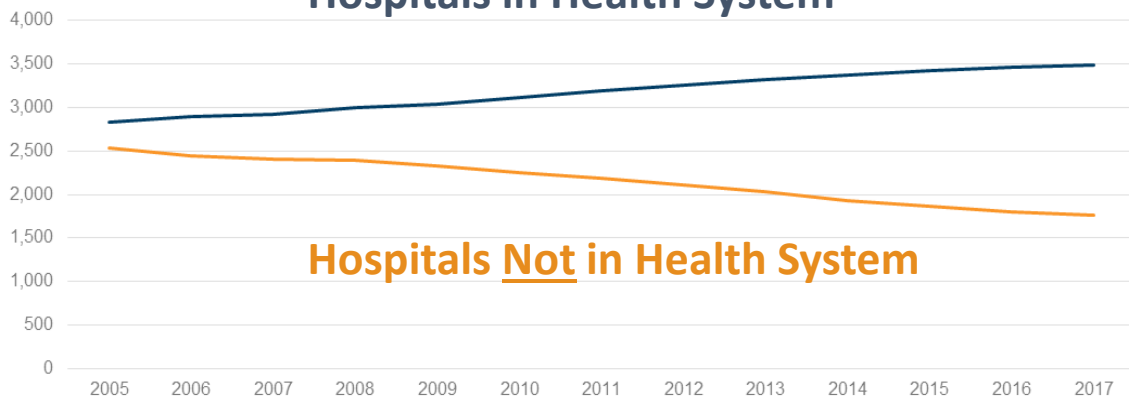
Zirui Song, MD, PhD
Harvard Medical School
Massachusetts General Hospital

Current Era of Consolidation & Corporatization in Health Care

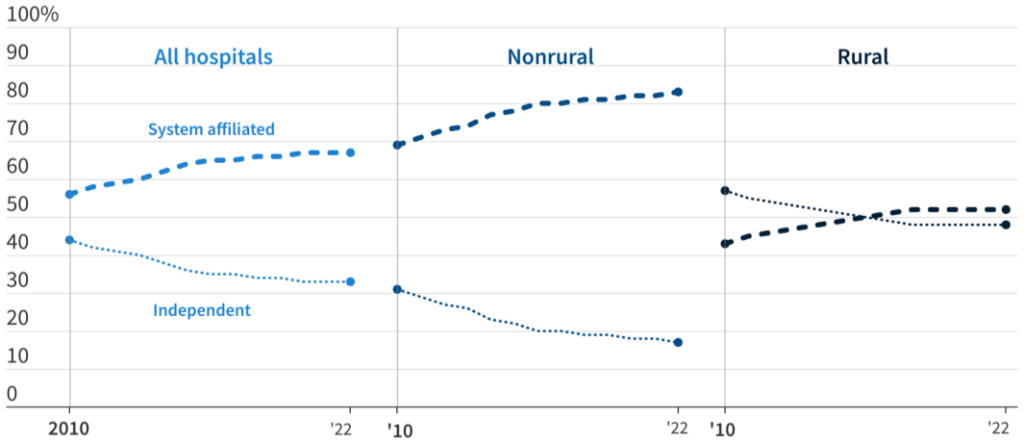




Current Era of Consolidation & Corporatization in Health Care



The share of hospitals affiliated with health systems increased from 56% in 2010 to 67% in 2022, with the share growing in both rural and nonrural areas



Note: Sample limited to non-federal general medical and surgical hospitals, excluding those in US territories.
Source: KFF analysis of AHA Annual Survey Database 2010-2022. • Get the data

KFF

Examples of Cross-Market Mergers Announced Since June 2021 With Combined Operating Revenues of at Least $5 Billion

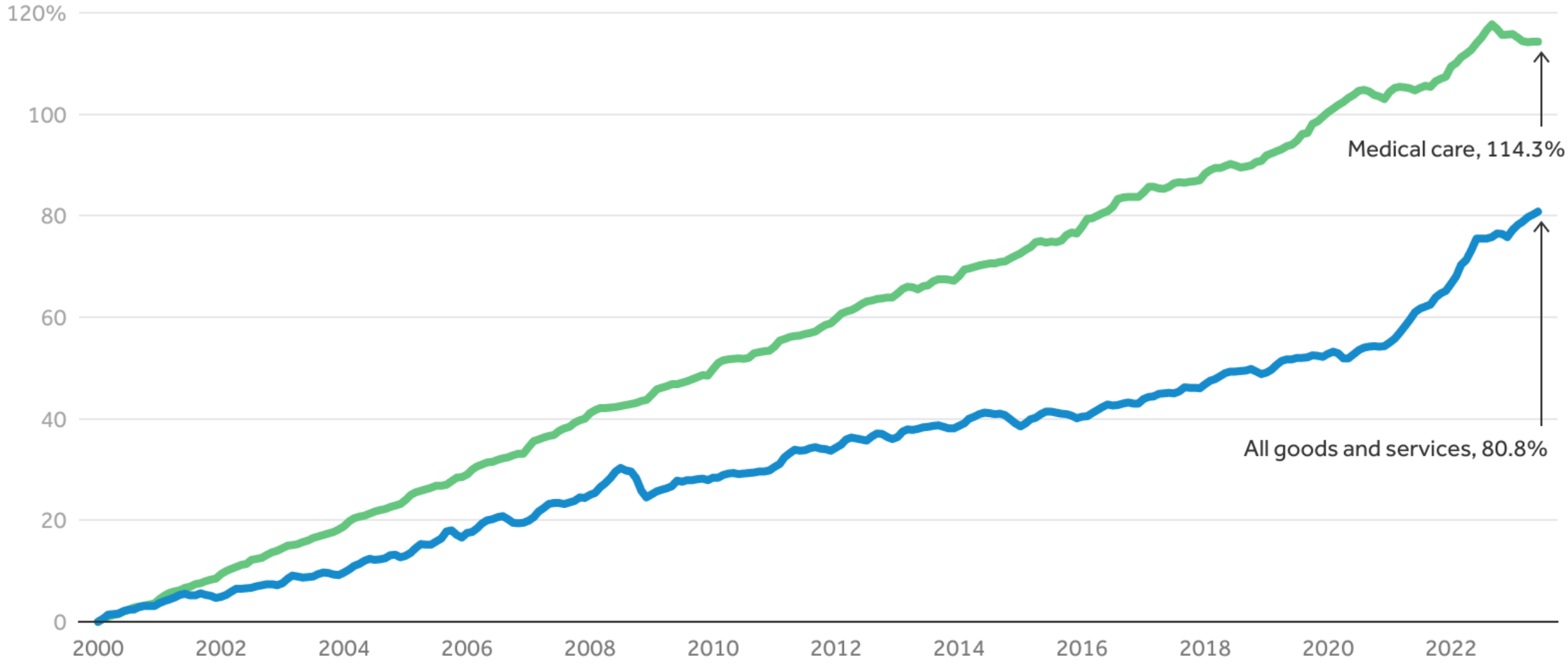
Year Announced	Larger system	Operating Revenues ($B)	Smaller system	Operating Revenues ($B)	Combined revenues ($B)
2023	BJC Healthcare (MO)	$6.3	St. Luke's Health System (MO)	$2.4	$8.7
2023	Kaiser Permanente (CA)*	$95.4	Geisinger (PA)*	$6.9	$102.3
2023	Presbyterian Healthcare Services (NM)	$5.5	UnityPoint Health (IA)	$4.3	$9.8
2022	University Of Michigan Health (MI)**	$5.6	Sparrow Health System (MI)	$1.5	$7.1
2022	Marshfield Clinic Health System (MI)	$2.8	Essentia Health (MN)	$2.6	$5.4
2022	Sanford Health (SD)***	$7.1	Fairview Health Services (MN)***	$6.4	$13.5
2022	Advocate Aurora Health (IL)	$14.1	Atrium Health (NC)	$9.0	$23.1
2021	Intermountain (UT)	$7.7	SCL Health (CO)	$2.9	$10.6
2021	Spectrum Health (MI)	$8.3	Beaumont Health (MI)	$4.6	$12.9

NOTE: Operating revenues come from audited financial statements covering the fiscal year prior to the merger announcement. State abbreviations reflect the corporate headquarters of a given health system. *Kaiser Permanente and Geisinger are both integrated health systems that include both insurance plans and health care providers. Revenues reflect all sources of operating income. **Reflects patient care revenues only. The University of Michigan does not separate out additional operating revenues related to its health system. ***Fairview Health Services and Sanford Health abandoned their plans to merge in July 2023.
SOURCE: KFF analysis of news releases and audited financial statements.

KFF

Kaiser Family Foundation (2023, 2024)

Prices of Medical Care vs. Prices of Everything Else – Since 2000

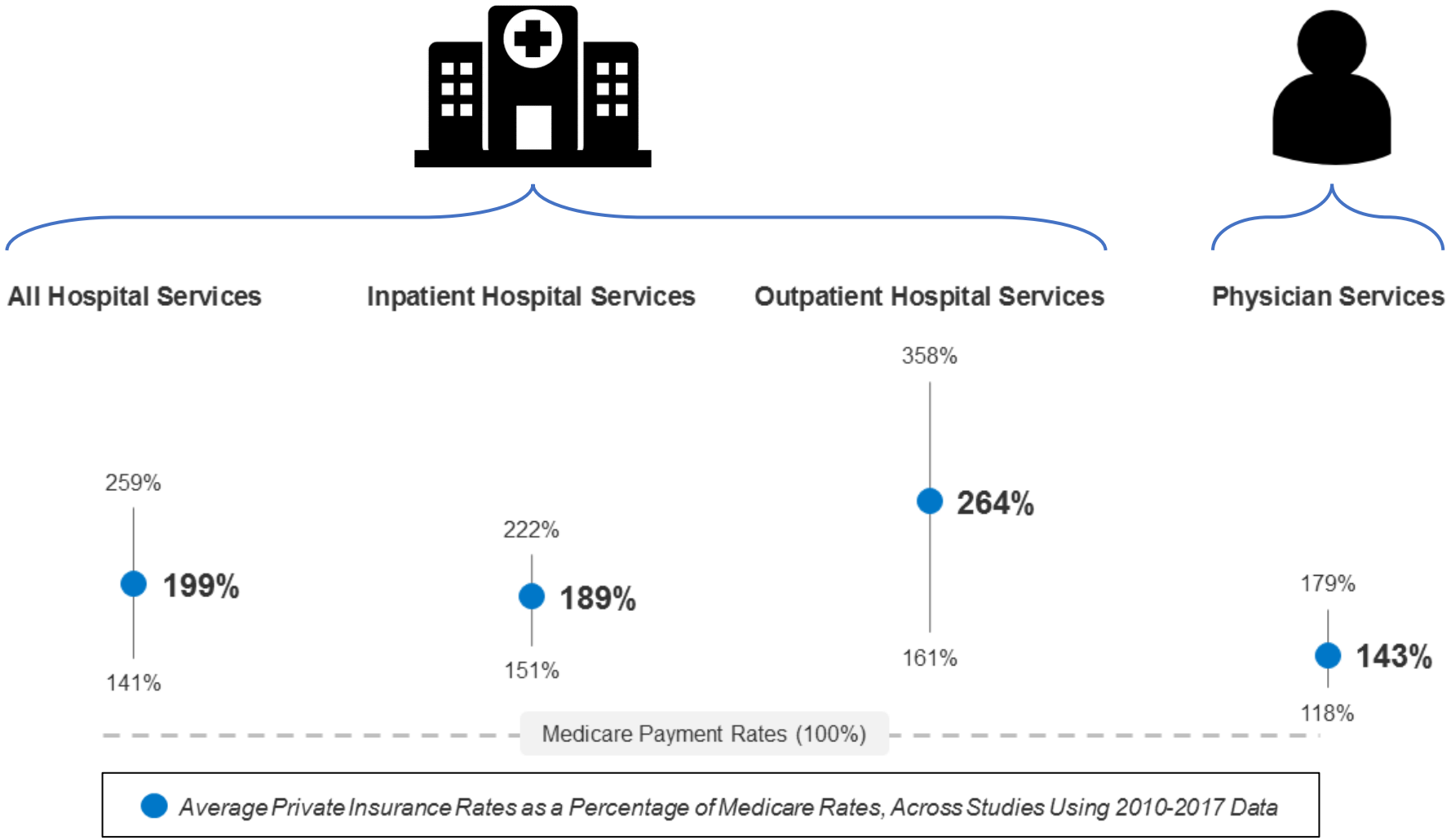


Note: Medical care includes medical services as well as commodities such as equipment and drugs.

Source: KFF analysis of Bureau of Labor Statistics (BLS) Consumer Price Index (CPI) data

Peterson-KFF
Health System Tracker

Consolidation → Higher Commercial Insurer Prices than Medicare



SOURCE: KFF analysis of 19 published studies comparing private insurance and Medicare payments to providers. Because some studies analyze payments to providers in multiple service categories, the number of studies across all categories is greater than 19.

KFF
HENRY J KAISER FAMILY FOUNDATION

Two Wrinkles to Commercial Prices: (1) Out-of-Network is Higher

	Medicare Price	Commercial Insurer Price			
		In-Network		Out-of-Network	
		Price	Ratio	Price	Ratio
Office Visit	$73	$80	1.1	$100	1.4
Hernia Repair	$540	$771	1.4	$1523	2.8
ECG	$9	$17	1.9	$28	3.3

No differences
in vs. out of network

Song Z. JAMA (2019)

(2) Geography Matters – Rural Commercial Prices Are Higher

Selected Commercial Prices as a Percentage of Traditional Medicare Fee-for-Service Prices, 2015.*

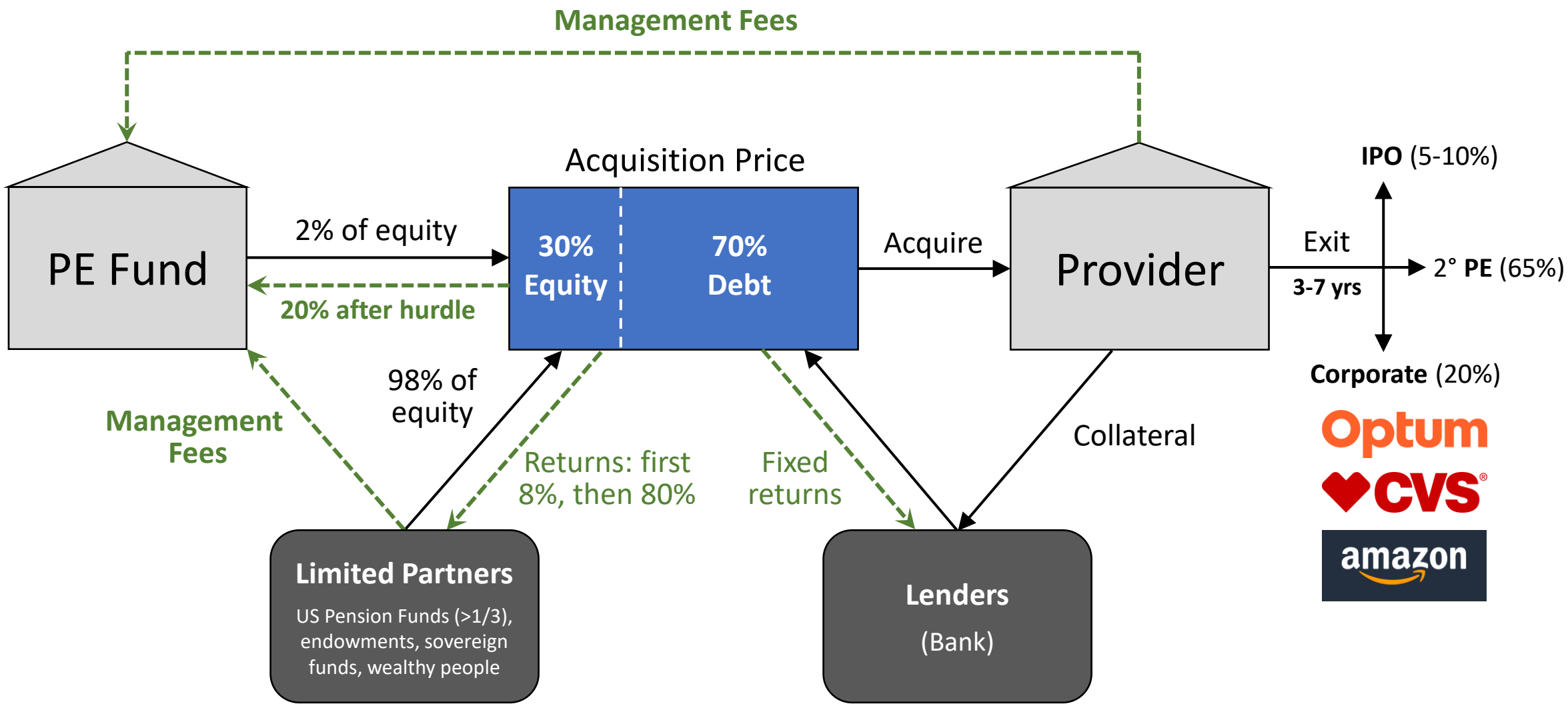
Service Code	Metropolitan Statistical Areas in the United States by Quartile of Population Size (Average Population in 2015)				Medicare Fee-for-Service Price
	Smallest Quartile (112,452)	Second Quartile (188,239)	Third Quartile (408,414)	Largest Quartile (2,022,512)	
	Rural	*percent*		**Urban**	*$*
Hospitalizations (DRG code)					
Major hip replacement (470)	228	180	159	132	21,977
Sepsis (871)	218	210	213	157	19,515
Digestive disorder (392)	242	183	154	140	8,297

Song Z. N Engl J Med (2017)

BREAKING NEWS

Steward Health Care, operator of 8 Massachusetts hospitals, files for bankruptcy

Classic Model of a Private Equity (PE) Acquisition



Management fees = 2/3 of revenue for PE general partner

Song Z. In progress

Private Equity and Primary Care: Lessons from the Field

Umar Ikram, MD, PhD, Khin-Kyemon Aung, MD, MBA, Zirui Song, MD, PhD

NEJM Catalyst

Table 1. Comparison of Venture Capital, Growth Equity, and Traditional Private Equity

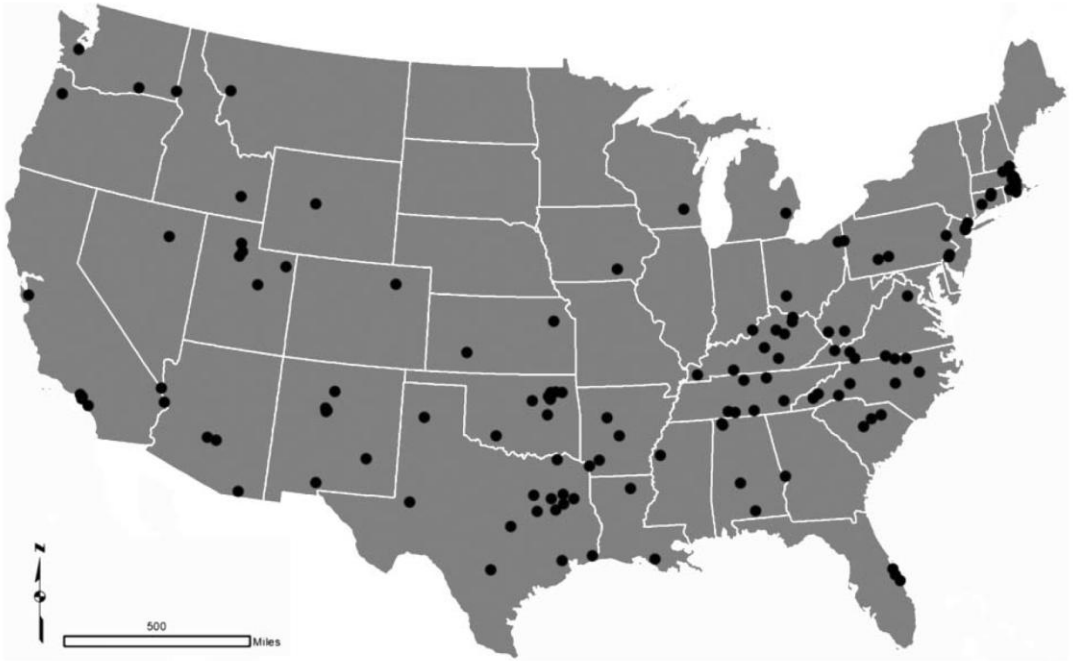
	Venture Capital	Growth Equity	Traditional Private Equity (Leveraged Buyout)
Stage of investment	Early stage	Later stage	Mature
Types of companies targeted	Start-ups or early-stage ventures with less of a proven business model, but with high growth potential	Organizations with stronger revenues and operating with proven business models, but in need of financing to pursue further growth	Established businesses that are undervalued or underperforming with inefficiencies that could be addressed through changes in operations, financial engineering, or governance
Amount of investment	Minority stake, <50% ownership	Usually minority stake, <50% ownership	Majority stake, >50% ownership
Exit time frame (on average)	5–10 years	3–7 years	3–7 years
U.S. deal value total in 2019*	$136.5 billion	$92.8 billion†	$627.3 billion
Number of U.S. deals in 2019*	10,777	1,678†	5,133
Estimated average investment size	$12.7 million	$55.3 million	$122.2 million
Expectations for returns	At least 10×; ideally, 50–100× returns for the most successful companies	At least 3–6× returns per deal	At least 2–4× returns per deal
Examples of firms	Venrock, Accel, Benchmark, Sequoia Capital, Madrona Venture Group	TPG Growth, Blackstone Growth, Summit Partners, General Atlantic, Insight Partners	The Carlyle Group, The Blackstone Group, KKR, TPG Capital, Warburg Pincus

*Data from Pitchbook. †Numbers reflect North America and Europe, not U.S. alone. Source: The authors

Geographic Distribution and Penetration

Hospital Acquisitions

Figure. Locations of private equity–owned hospitals in 2018.

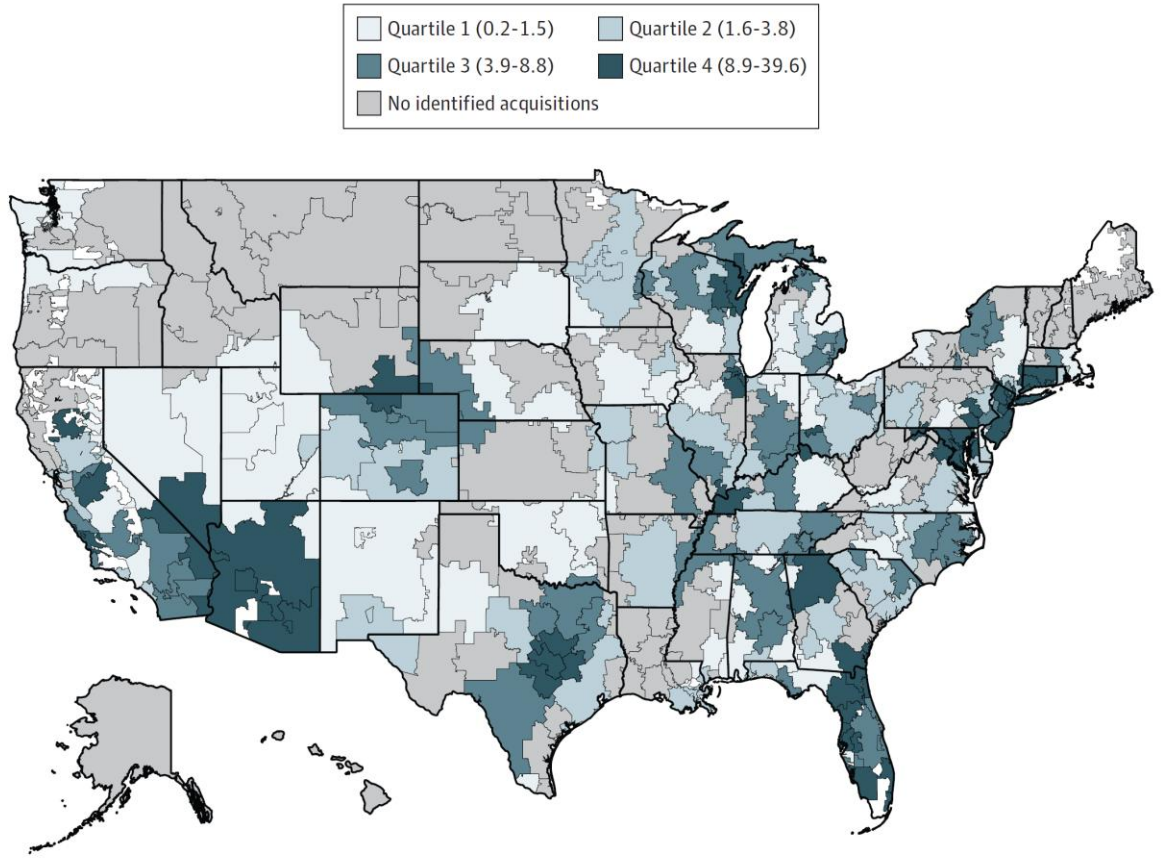


Using Medicare cost reports, the addresses for the 130 private equity–owned hospitals in 2018 were identified. There were no such hospitals located in Hawaii or Alaska.

Bruch J, Zeltzer D, Song Z. Ann Intern Med (2020)

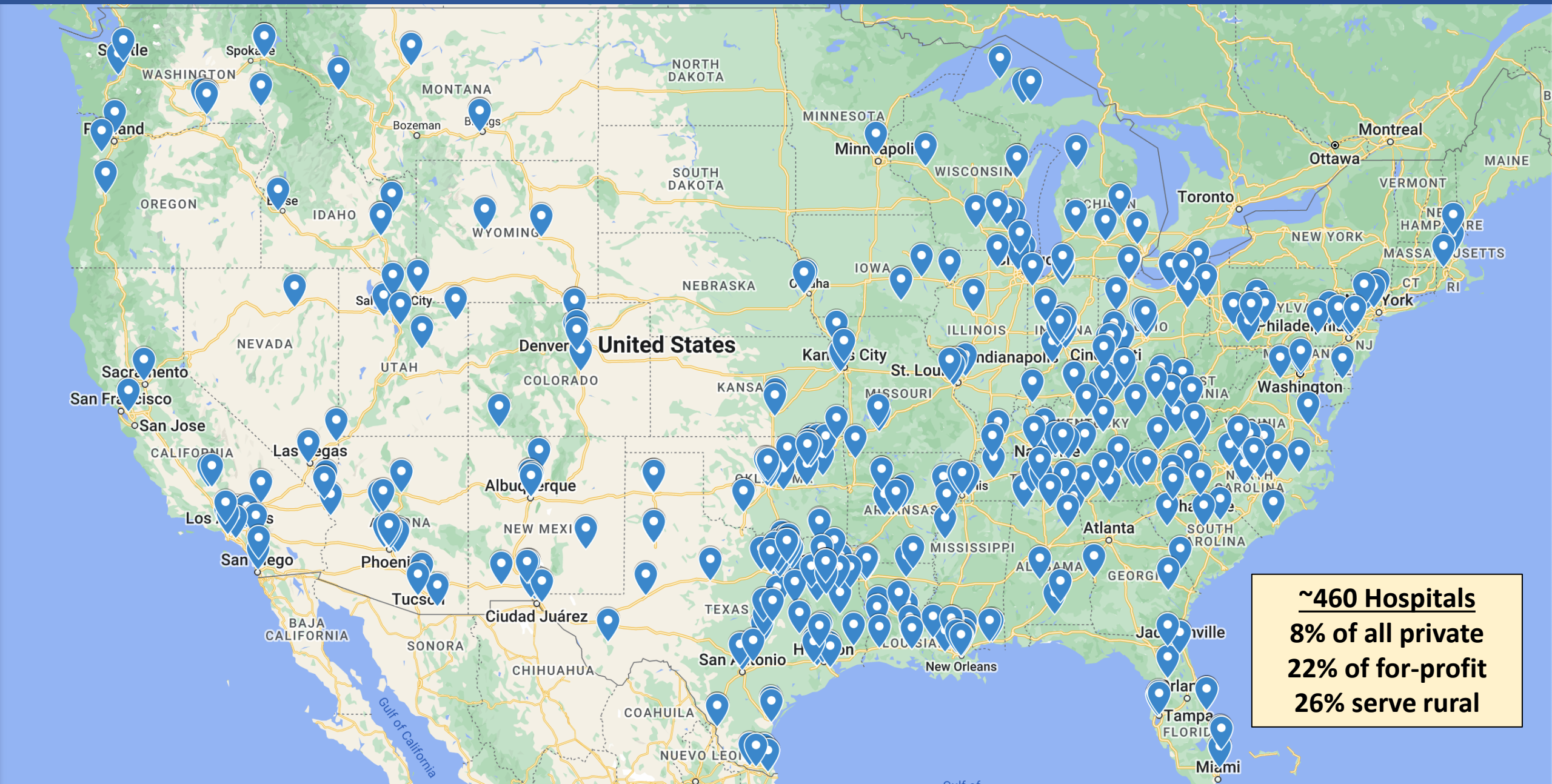
Physician Practice Acquisitions

Figure 1. Private Equity (PE) Penetration Across 6 Office-Based Specialties by Hospital Referral Region (HRR)



Singh Y, Zhu JM, Polsky D, Song Z. JAMA Health Forum (2022)

Private Equity Hospitals in 2024



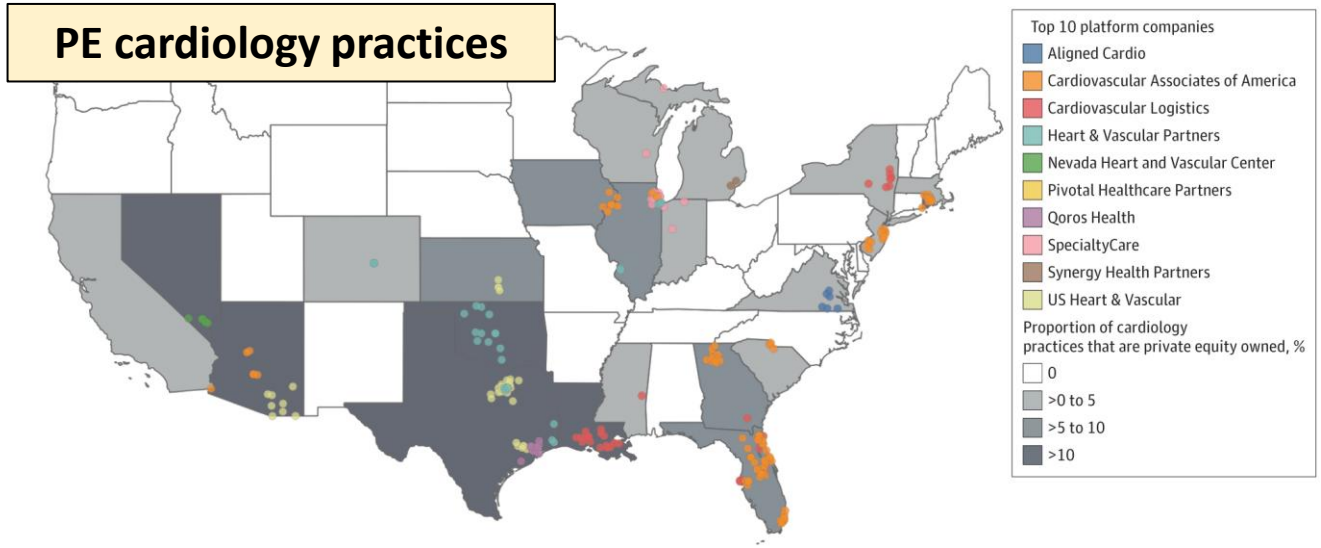
~460 Hospitals

8% of all private

22% of for-profit

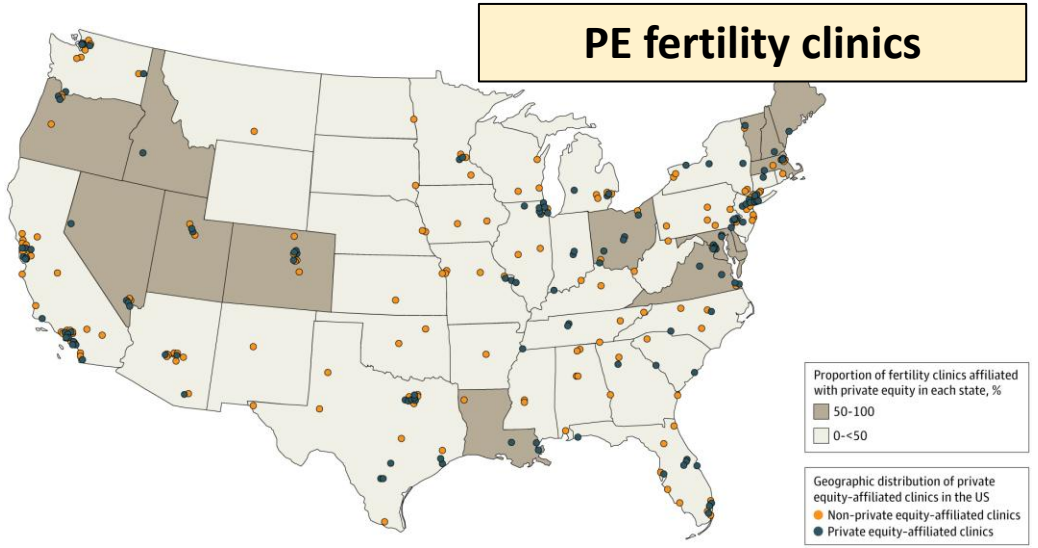
26% serve rural

PE cardiology practices

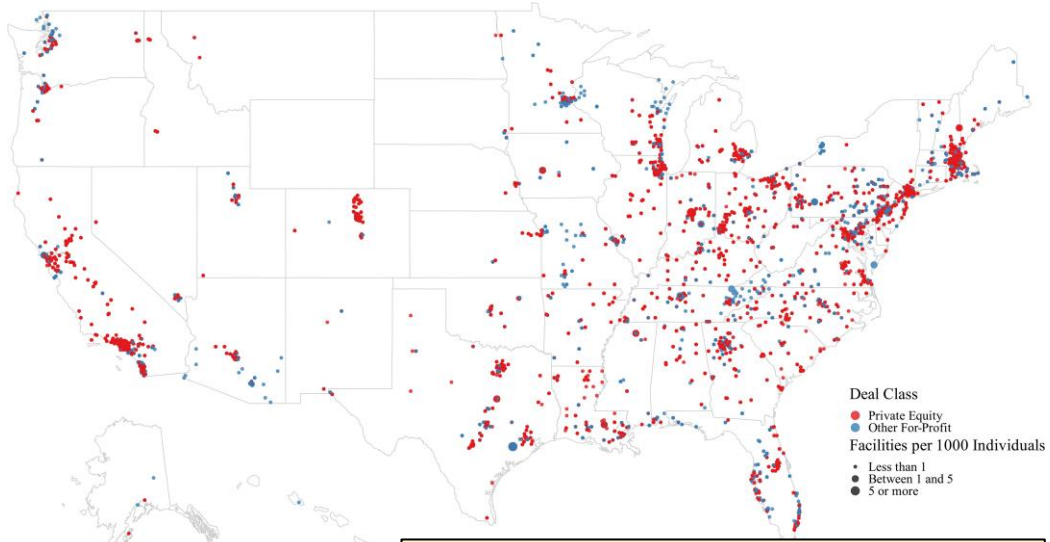


Singh Y, Reddy M, Whaley C. JAMA Health Forum (2024)

PE fertility clinics

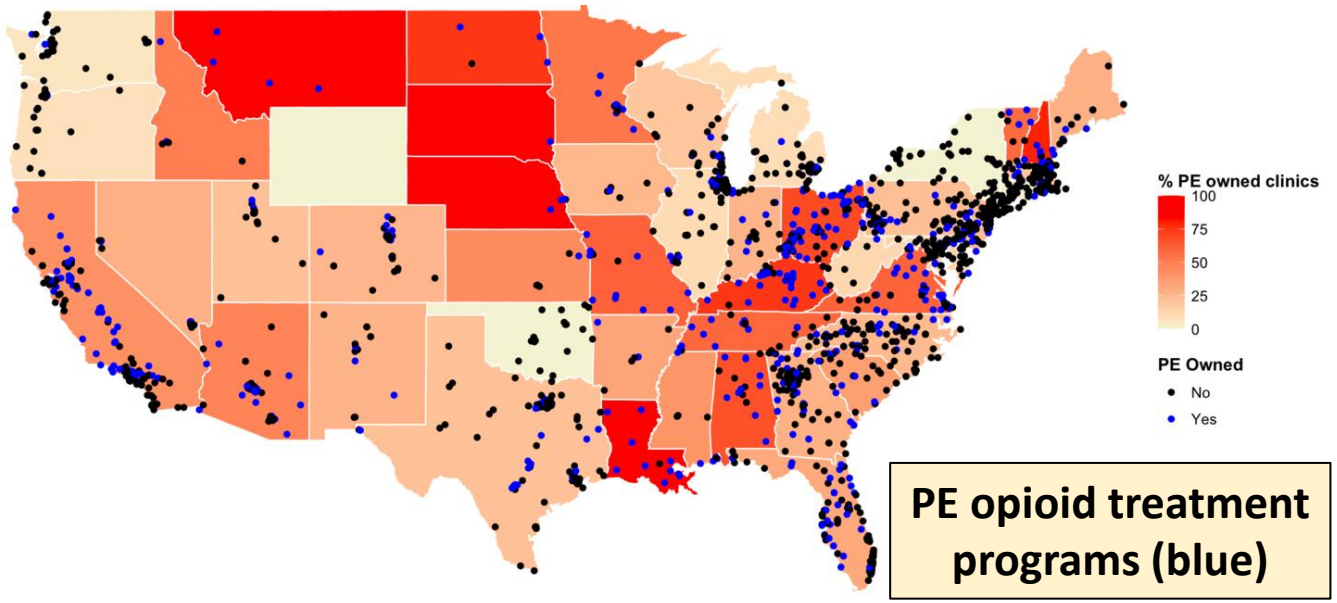


Ke J, Chen J, Chun E, Shahinian V, Dupree JM. JAMA (2025)



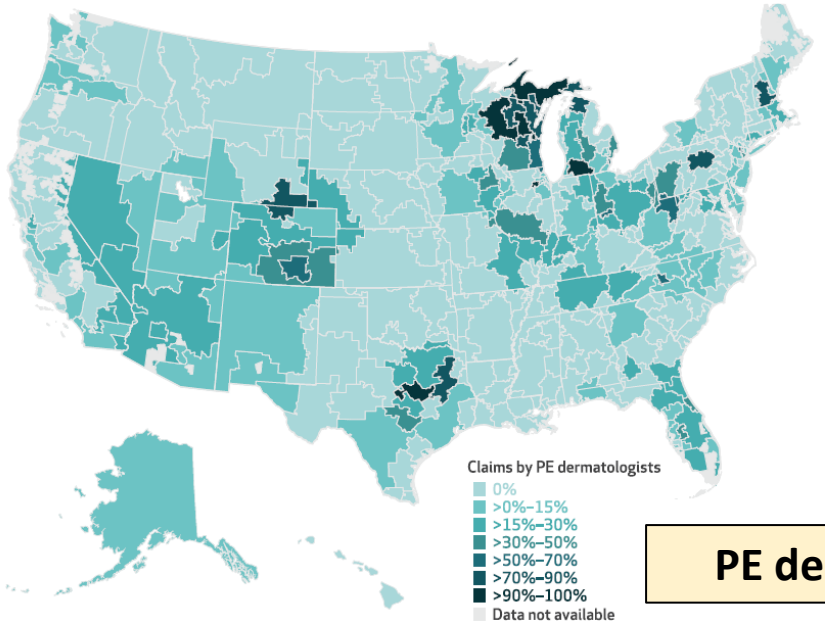
PE behavioral health facilities

Thornburg B, McGinty EB, Eddelbuettel J, et al. Health Affairs Scholar (2024)



PE opioid treatment programs (blue)

Zhu DT, Song Z, Kannan S, Cai C, Bajaj SS, Gondi S. JAMA Psychiatry (2025)

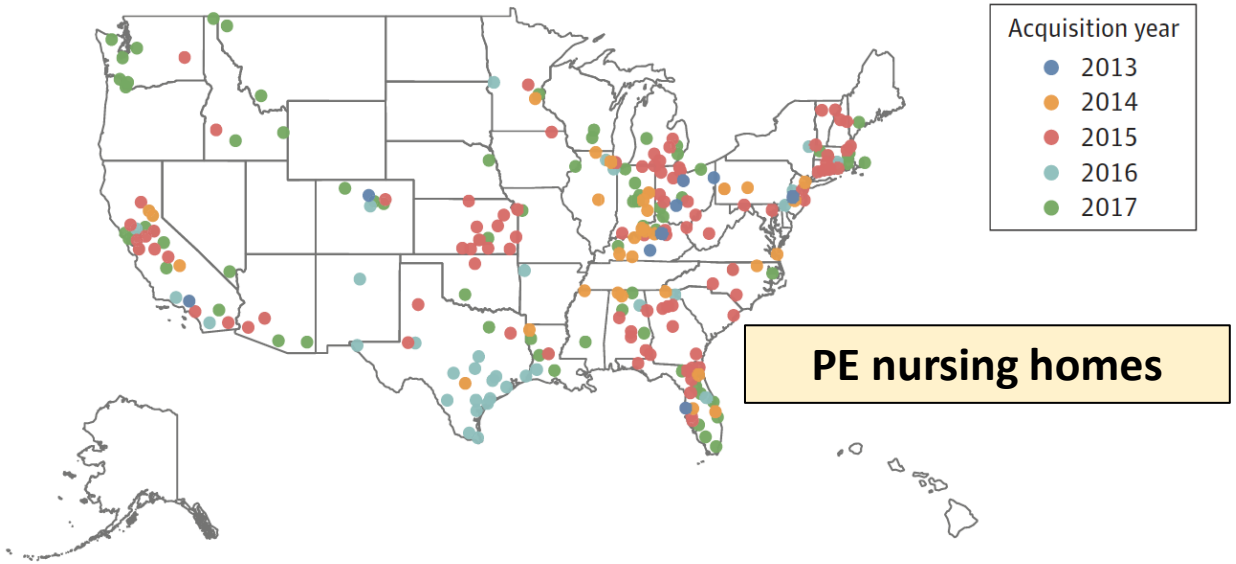


PE dermatology

Braun RT, Bond AM, Qian Y, Zhang M, Casalino LP. Health Affairs (2021)

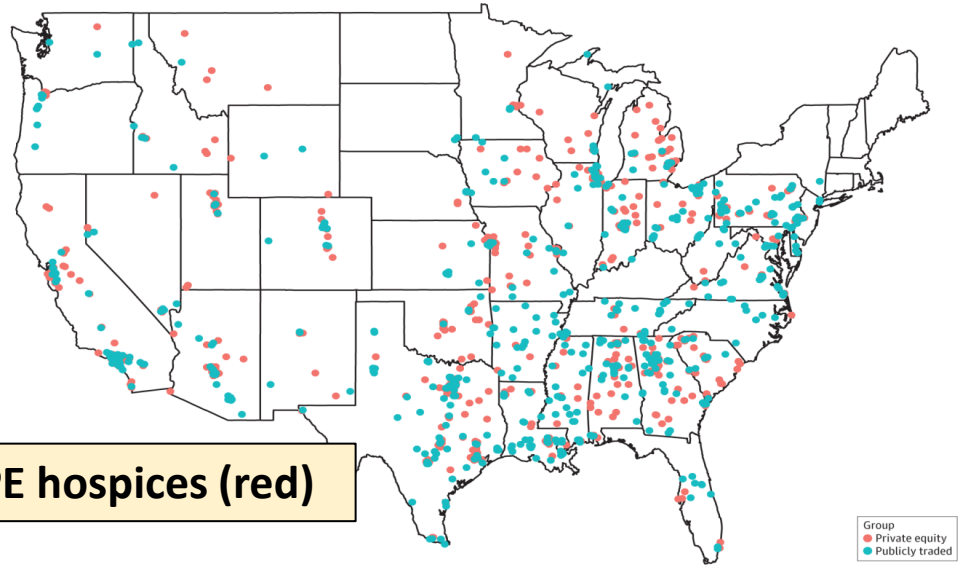
PE OB/GYN practices

Bruch JD, Borsa A, Song Z, Richardson SS. JAMA Internal Medicine (2020)



PE nursing homes

Braun R, Jung HY, Casalino L, Myslinksi L, Unruh M. JAMA Health Forum (2021)



PE hospices (red)

Braun RT, Unruh MA, Stevenson DG, et al. JAMA Network Open (2023)

Acquisitions of Hospitals → ↑ Income, Charges, Case Mix, Commercial %

JAMA Internal Medicine | Original Investigation

Changes in Hospital Income, Use, and Quality Associated With Private Equity Acquisition

Table 1. Characteristics of 204 Private Equity–Acquired Hospitals and 532 Control Hospitals[a]

Characteristic	Hospitals, No. (%)	
	Private equity acquisition	Control
Hospital ownership		
Nonprofit	29 (14.2)	76 (14.3)
Government	3 (1.5)	8 (1.5)
For profit	172 (84.3)	448 (84.2)
Geographic region		
South	125 (61.3)	325 (61.1)
West	37 (18.1)	97 (18.2)
Northeast	21 (10.3)	55 (10.3)
Midwest	21 (10.3)	55 (10.3)
Teaching hospital	55 (27.0)	139 (26.1)
Hospital size by total No. of beds, mean No.	212	200
Small (<150 beds), %	30.9	40.8
Medium (150-350 beds), %	56.4	45.1
Large (>350 beds), %	12.8	14.2

Figure. Total Charge to Cost Ratios Before and After Private Equity Acquisition

Bruch JD, Gondi S, Song Z. JAMA Intern Med (2020)

Acquisitions of Hospitals → ↑ Income, Charges, Case Mix, Commercial %

JAMA Internal Medicine | Original Investigation

Changes in Hospital Income, Use, and Quality Associated With Private Equity Acquisition

Relative to control, PE acquisitions increased:

Net income	27%
Charges per day	7%
Charge/cost ratio	7%
Charge/cost ratio (ED)	16%
Case mix	1.4%
Medicare %	-2.4%

Figure. Total Charge to Cost Ratios Before and After Private Equity Acquisition

Bruch JD, Gondi S, Song Z. JAMA Intern Med (2020)

Hospital-Acquired Conditions (Adverse Events)

Hospital Acquired Condition	Eligible Hospitalizations
Foreign body retained after surgery	All
Air Embolism	All
Blood Incompatibility	All
Pressure ulcers	All
Falls	All
Catheter-associated urinary tract infection (CAUTI)	All
Central line-assoc. bloodstream infection (CLABSI)	All
Surgical site infection (SSI) for CABG, Orthopedic Surgeries, and Bariatric Surgeries	Hospitalizations with performed CABG, Orthopedic Surgeries, or Bariatric Surgeries
Poor glycemic control	All
Deep vein thrombosis/ pulmonary embolism (DVT/PE)	Hospitalizations with performed Hip/Knee Replacements

RTI and CMS (2010, 2012)

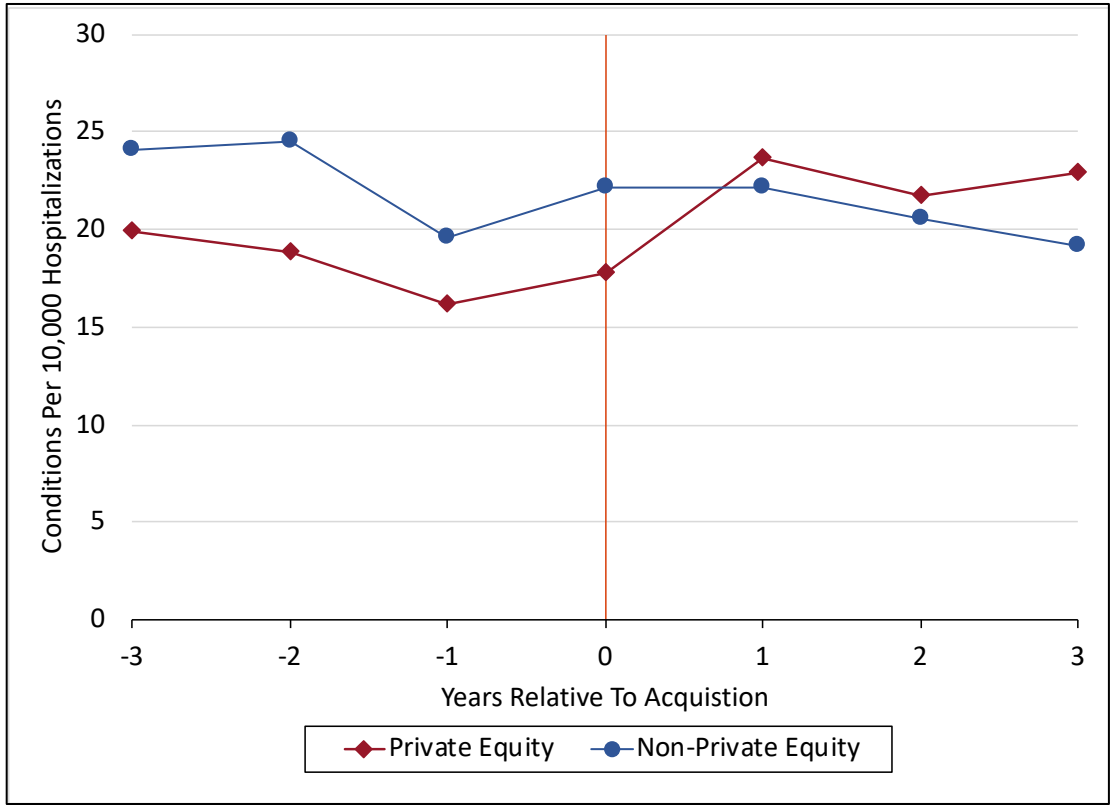
Acquisitions of Hospitals → ↑ Hospital-Acquired Complications

JAMA | Original Investigation

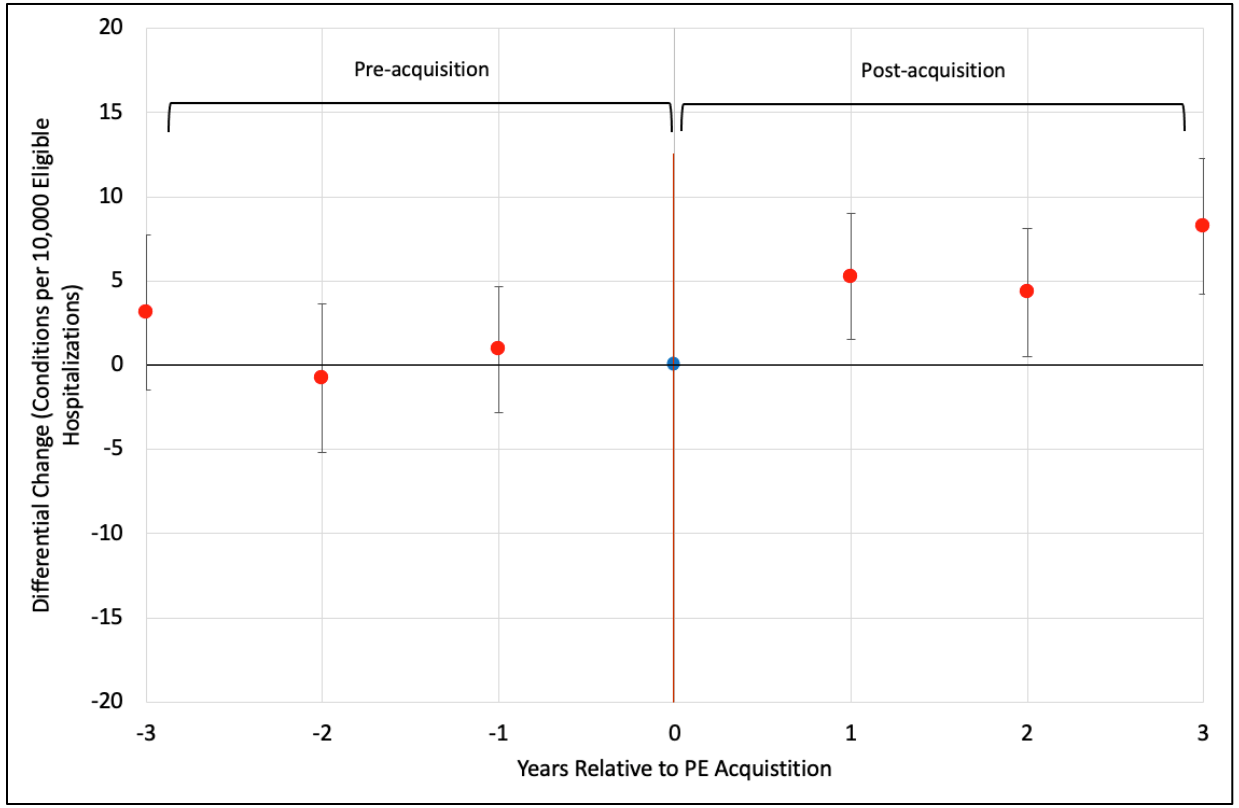
Changes in Hospital Adverse Events and Patient Outcomes Associated With Private Equity Acquisition

Sneha Kannan, MD; Joseph Dov Bruch, PhD; Zirui Song, MD, PhD

Unadjusted Levels



Adjusted Estimates (Differential Change)



Private Equity Acquisitions of Hospitals

Hospital-Acquired Complications (HACs) in Medicare Patients

Relative to control, PE acquisitions increased:

Composite HACs	25%
Falls	27%
Central line infections	38%

(Despite 16% fewer central lines)

Surgical site infections doubled at PE hospitals, while declining at controls.
(Despite 8% fewer surgeries performed)

… all among younger and lower-risk Medicare patients (↓ duals)

… and all after a 12% ↑ in transfers

Kannan S, Bruch J, Song Z. JAMA (2023)

The Boston Globe

They died in hallways. In line. Alone. Their deaths are the human cost of Steward's financial neglect.

This story was reported by Liz Kowalczyk, Chris Serres, Jessica Bartlett, Elizabeth Koh, Mark Arsenault, and Yoohyun Jung. It was written by Arsenault and edited by Brendan McCarthy.

Published Sept. 6, 2024

Annals of Internal Medicine

ORIGINAL RESEARCH

Hospital Staffing and Patient Outcomes After Private Equity Acquisition

Sneha Kannan, MD, MS; Joseph Dov Bruch, PhD; José R. Zubizarreta, PhD; Jennifer Stevens, MD, MS; and Zirui Song, MD, PhD

Background: After private equity acquisition, hospitals may experience changes in staffing with implications for patients.

Objective: To examine hospital staffing and patient outcomes in emergency departments (EDs) and intensive care units (ICUs) before and after hospitals were acquired by private equity.

Design: Matched difference-in-differences analysis.

Setting: 100% Medicare Part A and B claims and Cost Report data from 2009 to 2019.

Patients: 1 007 529 ED visits and 121 080 ICU hospitalizations across 49 private equity hospitals were compared with 6 179 854 ED visits and 760 377 ICU hospitalizations across 293 matched control hospitals.

Measurements: Hospital ED and ICU salary expenditures, patient mortality, length of stay, and transfers. Secondary outcomes included hospital-wide salary expenditures and full-time employees.

Results: After acquisition, private equity hospitals reduced ED salary expenditures by 18.2% (−$12.63 per inpatient bed day; 95% CI, −$22.74 to −$2.52; $P = 0.015$) and ICU salary expenditures by 15.9% (−$8.46 per inpatient bed day, CI, −$13.21 to −$3.72; $P < 0.001$) relative to control. This occurred alongside average hospital-wide reductions in full-time employees by 11.6% and salary expenditures by 16.6%, relative to control. Beneficiaries in EDs of private equity hospitals experienced 7.0 additional deaths per 10 000 visits after acquisition relative to control (13.4% increase from a raw baseline of 52.4 deaths per 10 000; $P = 0.009$). No differential change in ICU mortality was observed. However, patients in private equity EDs and ICUs experienced a 4.2% and 10.6% increase in transfers, respectively, to other acute care hospitals after acquisition relative to control. On average, ICU length of stay shortened by 0.2 days. Sensitivity analyses produced qualitatively similar findings.

Limitation: Potential unmeasured confounding; lack of generalizability to other acquisitions or patient populations.

Conclusion: After private equity acquisition, hospitals on average reduced salaries and staffing relative to nonacquired hospitals, notably in the EDs and ICUs, which are higher-acuity and staffing-sensitive areas. This decreased capacity to deliver care may explain the increased patient transfers to other hospitals, shortened ICU lengths of stay, and increased ED mortality.

Primary Funding Source: National Institutes of Health and Agency for Healthcare Research and Quality.

Ann Intern Med. doi:10.7326/ANNALS-24-03471
For author, article, and disclosure information, see end of text.
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Annals of Internal Medicine

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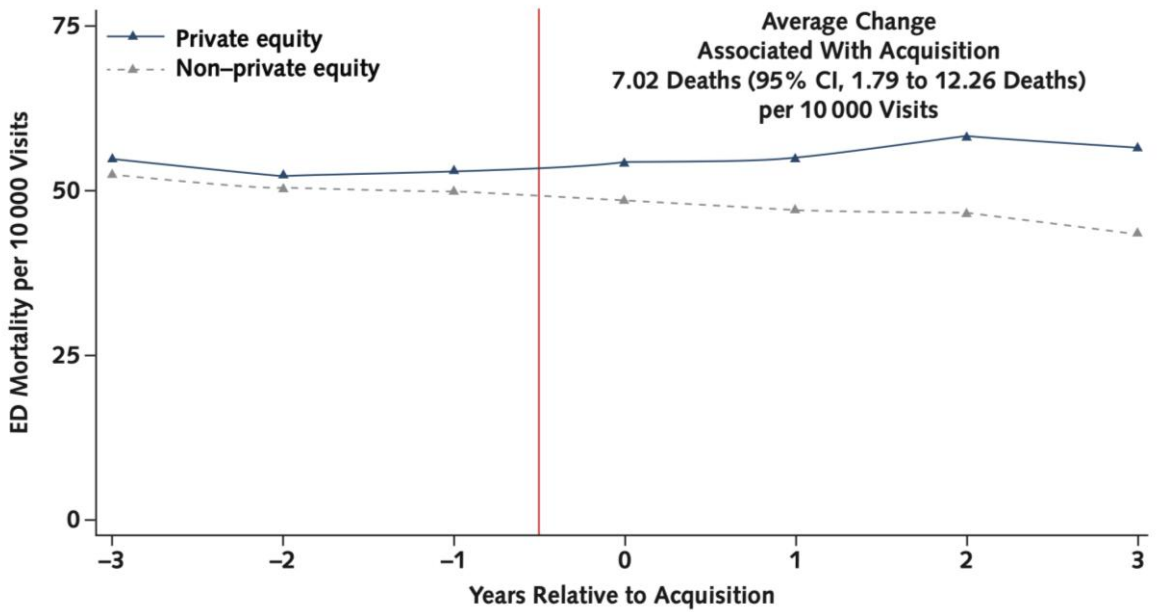
Table 2. Changes in Patient Outcomes in Private Equity and Control Hospitals*

Outcome	Private Equity		Control		Unadjusted Between-Group Difference†	Adjusted Between-Group Difference‡ (Percentage) [95% CI]	*P* Value
	Preacquisition	Postacquisition	Preacquisition	Postacquisition			
	(*n* = 49)		(*n* = 293)				
Hospital salary expenditures					-	-	-
ED salary expenditures per inpatient bed day, $	69.37	65.96	81.59	89.03	−10.84	−12.63 (−18.2) [−22.74 to −2.52]	0.015
ICU salary expenditures per inpatient bed day, $	53.25	48.90	57.53	60.39	−7.20	−8.46 (−15.9) [−13.21 to −3.72]	<0.001
	(*n* = 1 007 529)		(*n* = 6 197 854)				
ED visits					-	-	-
In-hospital mortality per 10 000	52.35	57.10	49.37	44.61	9.50	7.02 (13.4) [1.79 to 12.26]	0.009
Transfer to acute care hospital, %	2.65	3.65	2.82	2.89	0.94	0.11 (4.2) [0.04 to 0.18]	0.002
	(*n* = 121 080)		(*n* = 760 377)				
ICU hospitalizations					-	-	-
ICU length of stay, *d*	4.12	3.76	3.79	3.68	−0.24	−0.20 (−4.8) [−0.26 to −0.13]	0.006
In-hospital mortality, %	11.25	11.07	11.02	10.61	0.23	−0.13 (−1.1) [−0.54 to 0.29]	0.55
Transfer to acute care hospital, %	4.41	5.10	4.11	4.09	0.66	0.47 (10.6) [0.18 to 0.74]	0.024

Figure 3. Emergency department mortality at private equity and control hospitals.



(2025)

Annals of Internal Medicine ORIGINAL RESEARCH

Hospital Staffing and Patient Outcomes After Private Equity Acquisition

Sneha Kannan, MD, MS; Joseph Dov Bruch, PhD; José R. Zubizarreta, PhD; Jennifer Stevens, MD, MS; and Zirui Song, MD, PhD

Figure 1. Emergency department and intensive care unit salary expenditures at private equity and control hospitals.

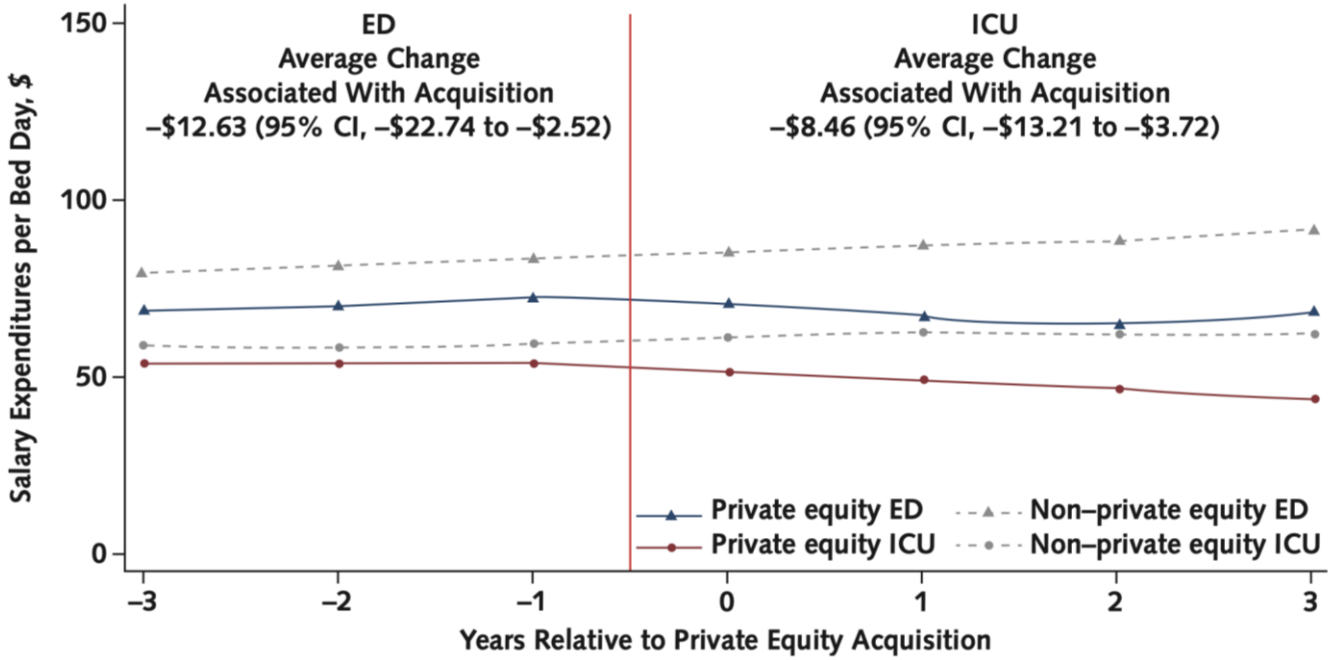
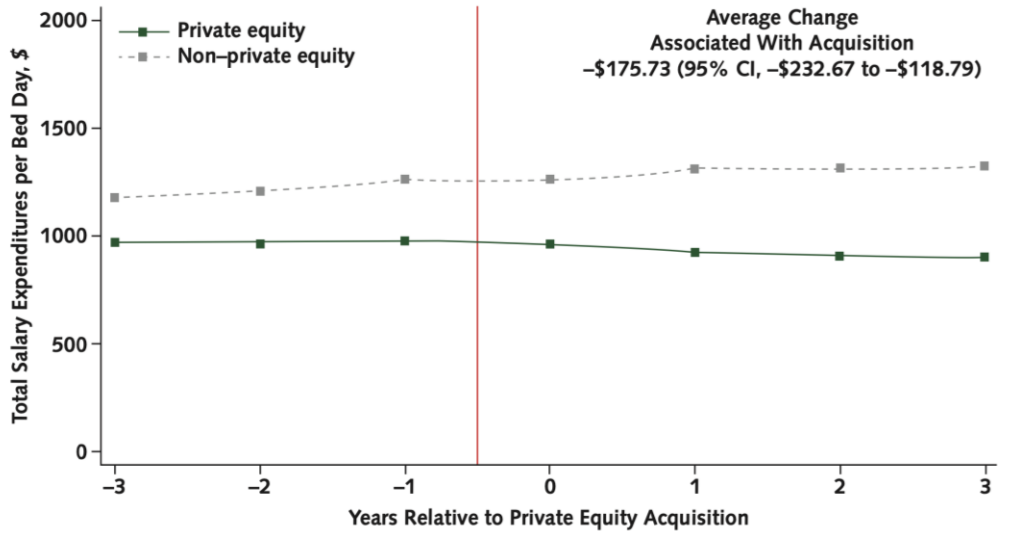
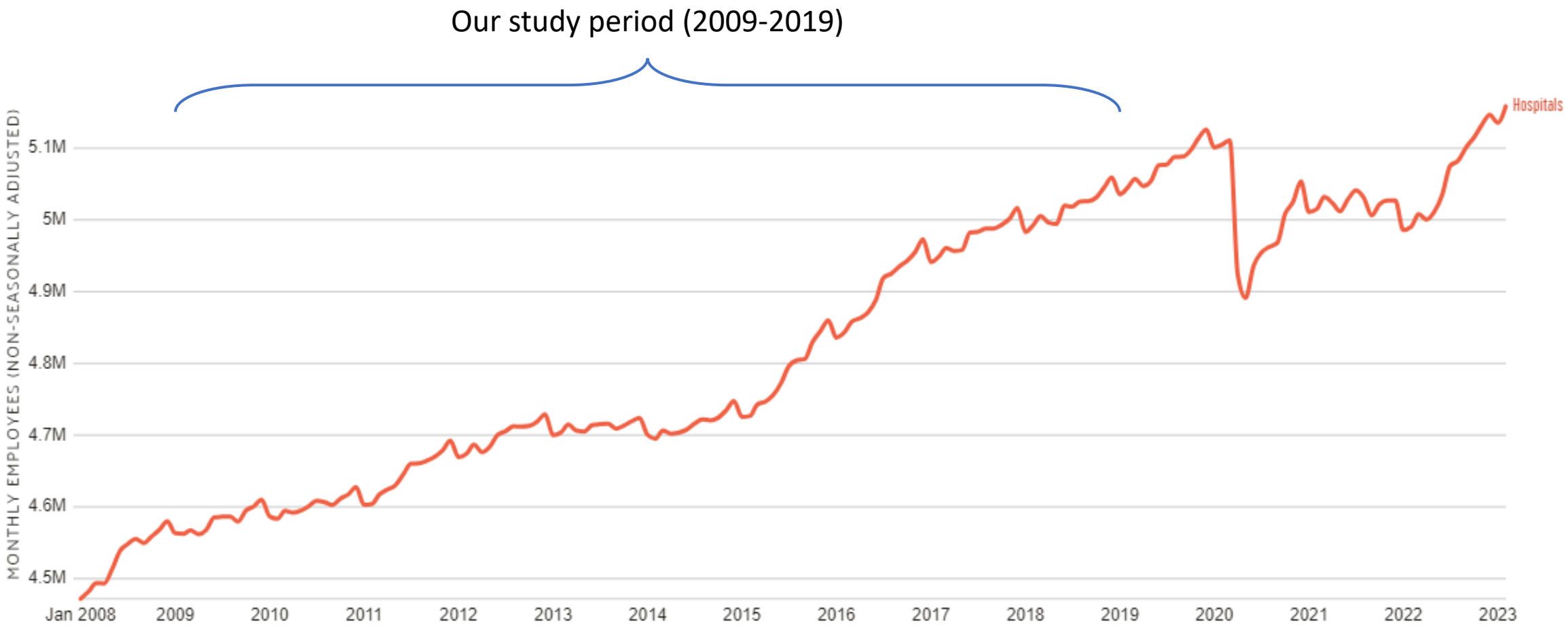


Figure 2. Total salary expenditures at private equity and control hospitals.



(2025)

National Trends in Hospital Employees



U.S. Bureau of Labor Statistics (2023)

What About During COVID?





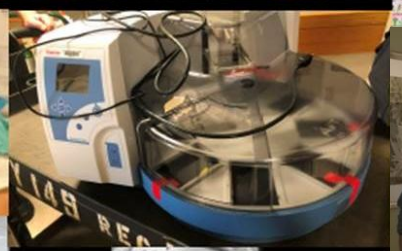








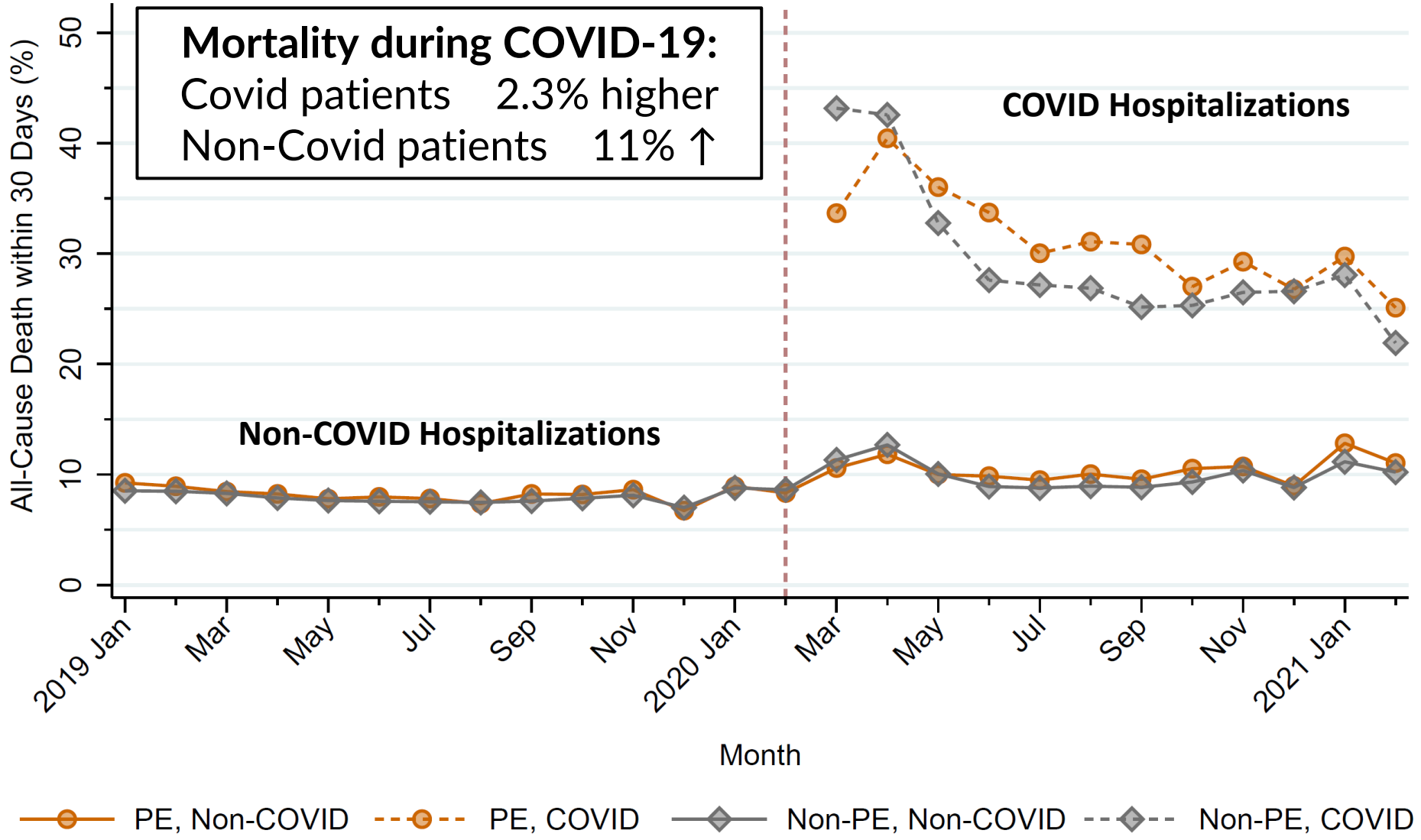




Colleagues at MGH

30-day Mortality for COVID and Non-COVID Hospitalizations



Song Z, Patterson L, Bruch J, Zhang X, Haas D. In progress

Policy Question 1: Does Private Equity Buy Distressed Hospitals?

242 PE Hospitals vs. 870 Matched Control Hospitals

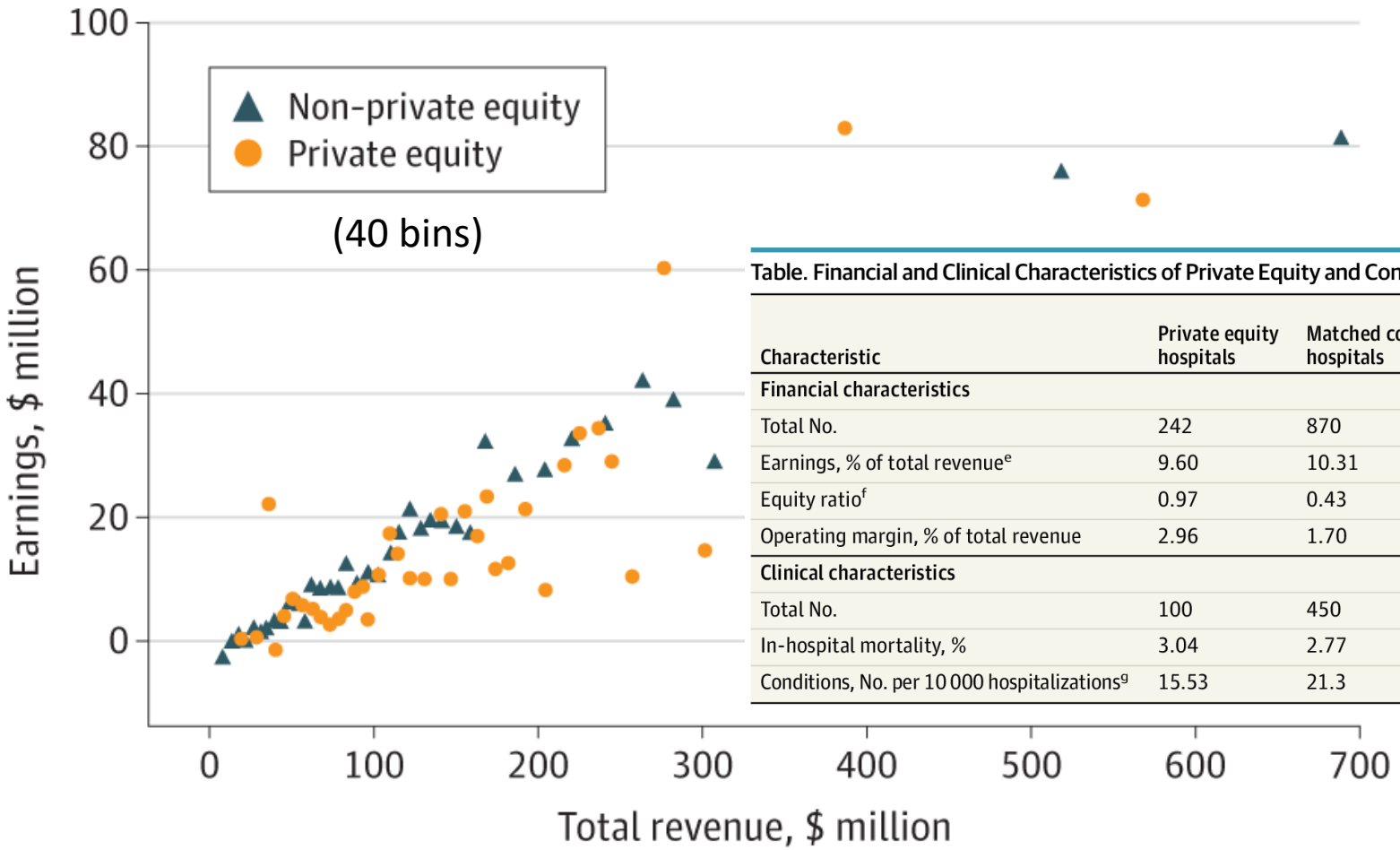


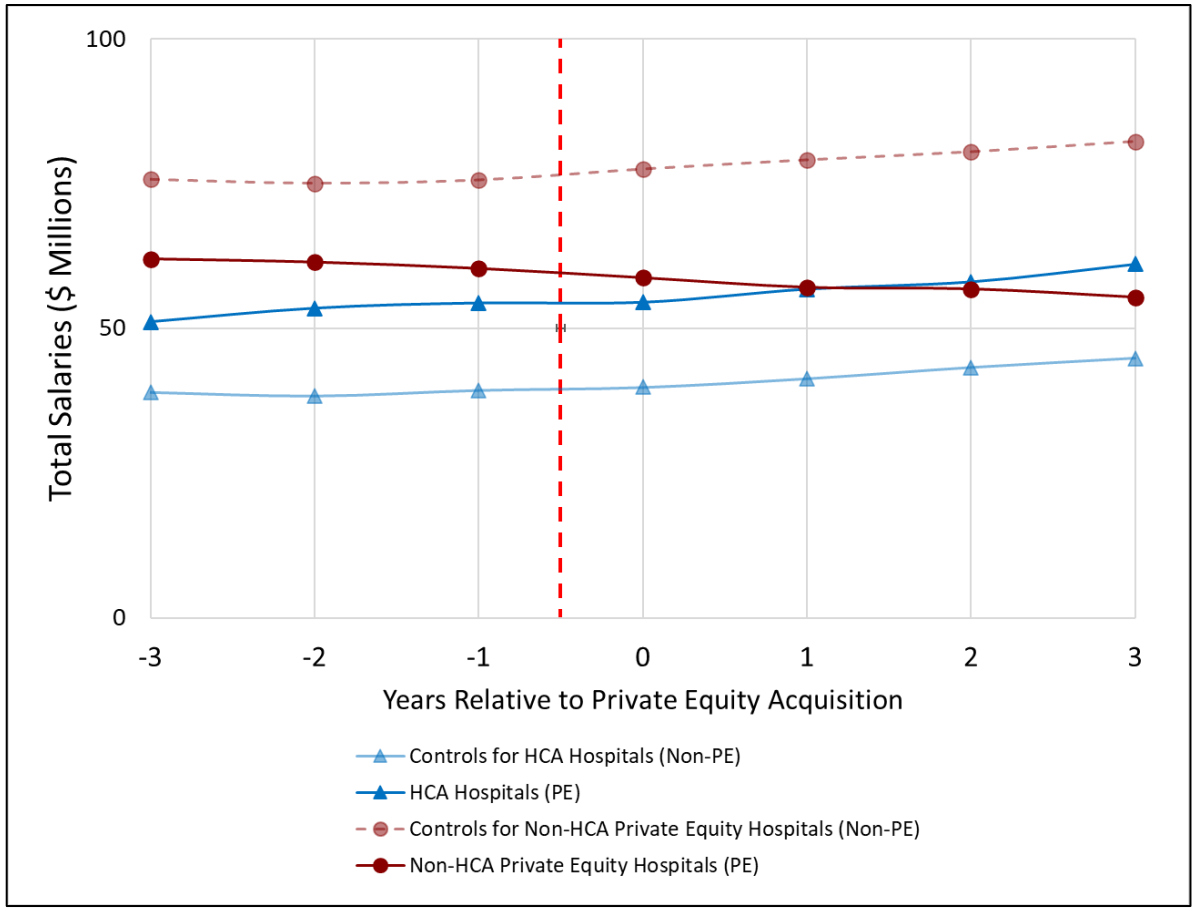
Table. Financial and Clinical Characteristics of Private Equity and Control Hospitals in the Year Before Acquisition[a]

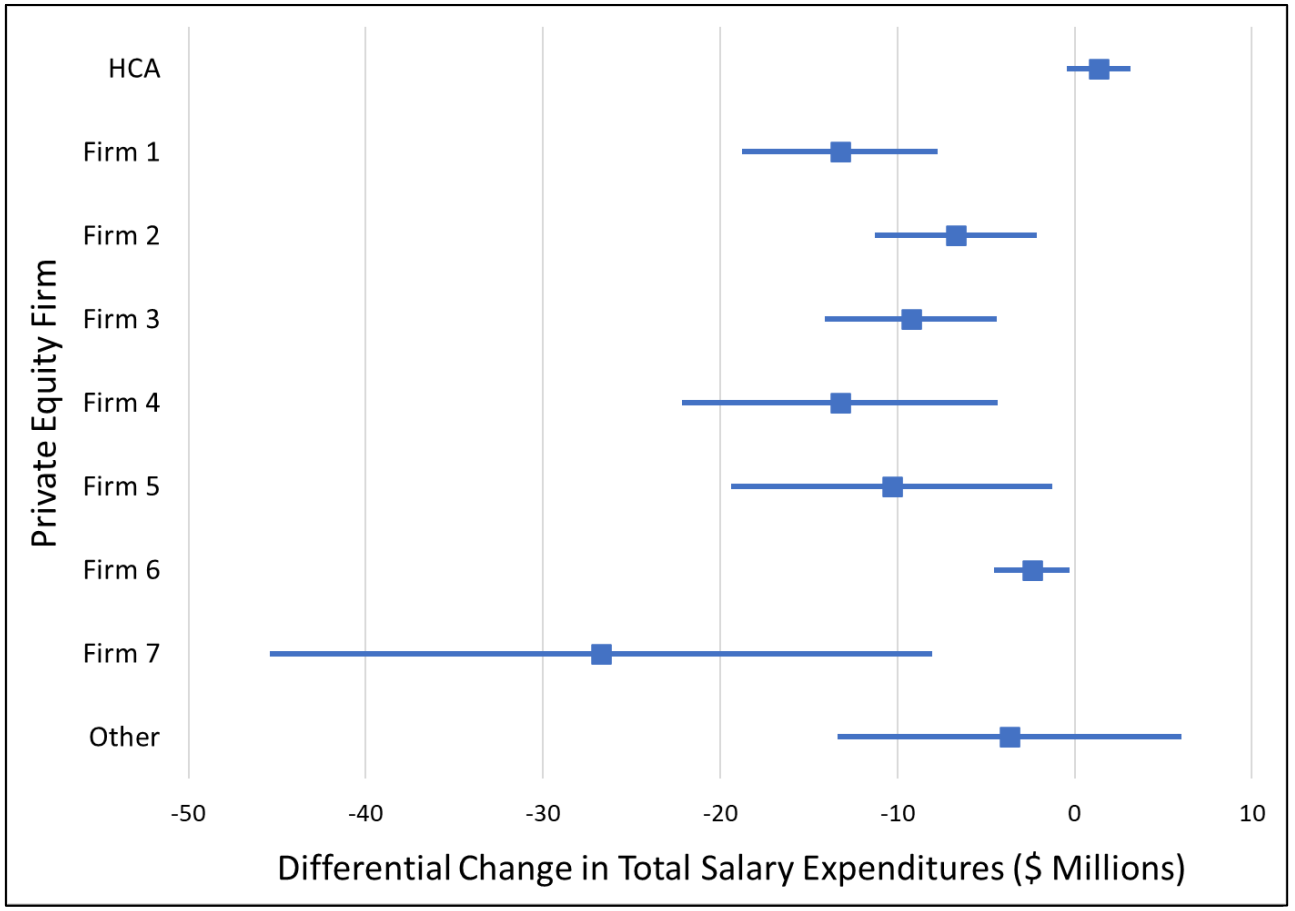
Characteristic	Private equity hospitals	Matched control hospitals	Unadjusted difference, %[b]	Adjusted difference, % (95% CI)[c]	*P* value	
					Unadjusted	Bonferroni adjusted[d]
Financial characteristics						
Total No.	242	870	NA	NA	NA	NA
Earnings, % of total revenue[e]	9.60	10.31	−0.22	−0.37 (−2.65 to 1.92)	.75	>.99
Equity ratio[f]	0.97	0.43	0.50	0.47 (0.33 to 0.61)	<.001	<.001
Operating margin, % of total revenue	2.96	1.70	1.12	0.87 (−1.12 to 2.87)	.39	>.99
Clinical characteristics						
Total No.	100	450	NA	NA	NA	NA
In-hospital mortality, %	3.04	2.77	0.42	−0.02 (−0.24 to 0.19)	.84	>.99
Conditions, No. per 10 000 hospitalizations[g]	15.53	21.3	−4.09	−0.80 (−11.66 to 10.05)	.88	>.99

Kannan S, Song Z. JAMA Internal Medicine (2024)

Policy Question 2: Do Private Equity Firms Differ in Strategy?

Changes in Total Salary Expenditures

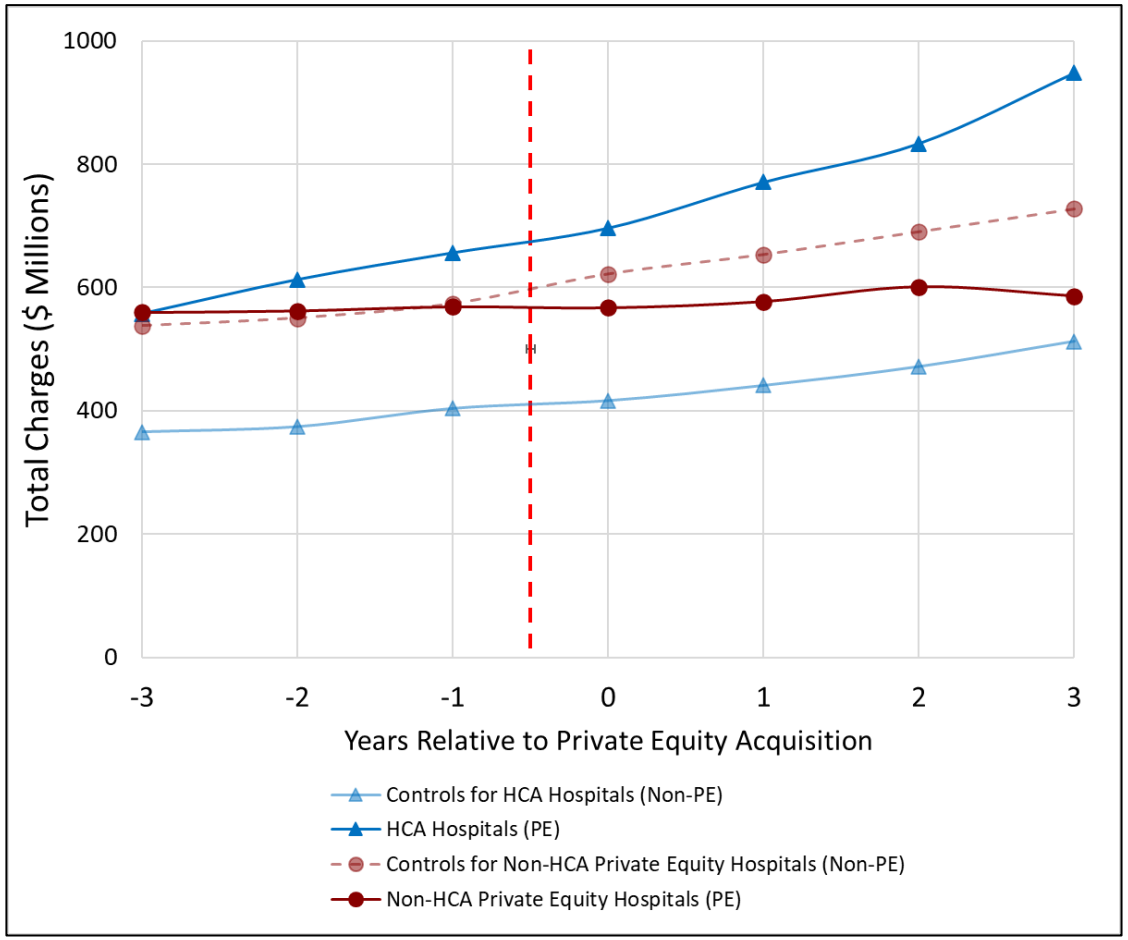


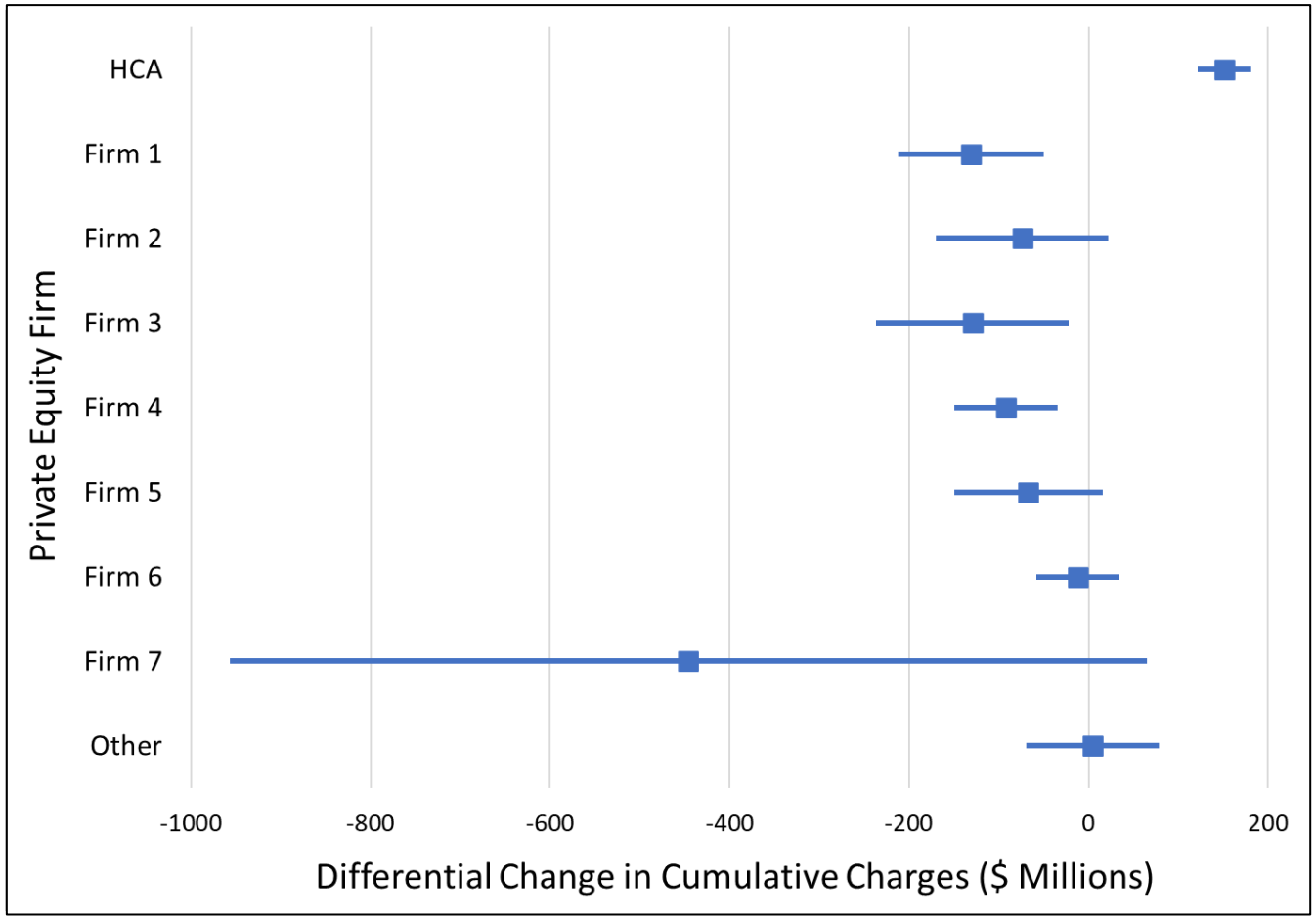


Kannan S, Song Z. Health Affairs (2025)

Policy Question 2: Do Private Equity Firms Differ in Strategy?

Changes in Cumulative Charges Billed (Reflects: Charges per service * Volume of services)





Kannan S, Song Z. Health Affairs (2025)

Private Equity Acquisitions of Physicians

Geographic Variation in Private Equity Penetration Across Select Office-Based Physician Specialties in the US

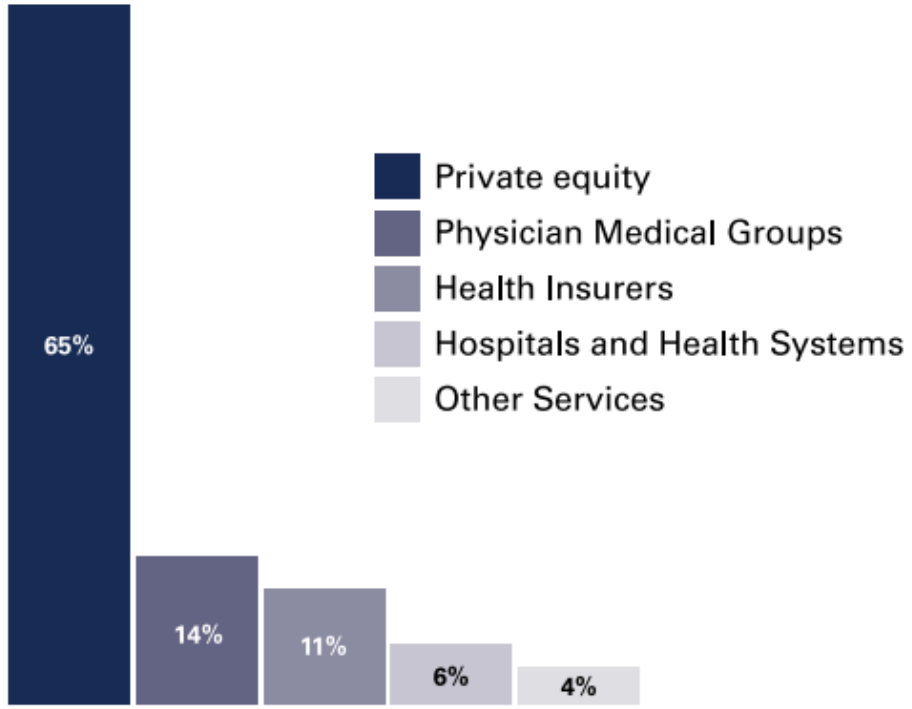
Yashaswini Singh, MPA; Jane M. Zhu, MD, MPP, MSHP; Daniel Polsky, PhD, MPP; Zirui Song, MD, PhD

JAMA Health Forum (2022)

Specialty	Count of physicians identified in PE-acquired practices	Count of physicians in office-based settings	Estimated PE penetration (%)
Gastroenterology	845	6,147	13.7
Urology	492	4,758	10.3
Dermatology	851	8,565	9.9
Women's Health	1,352	15,360	8.8
Ophthalmology	741	11,398	6.5
Orthopedics	460	15,588	3.0
Total	4,738	61,752	7.7

Private Equity Physician Practices

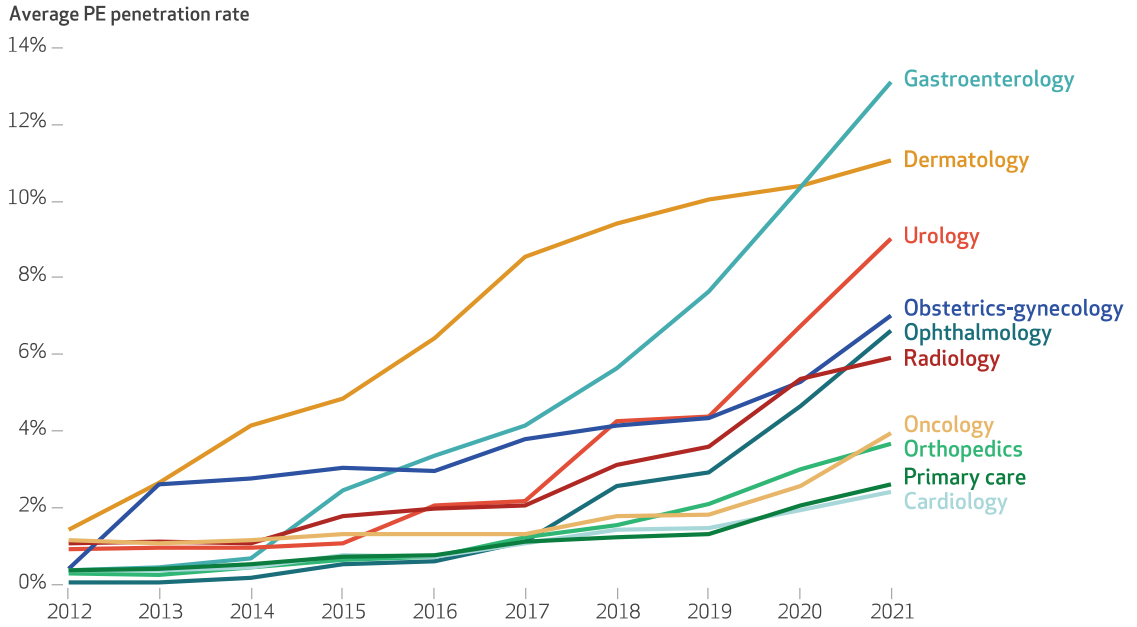
Percentage of aquired physicians by type, 2019 - 2023



LevinPro HG, Levin Associates, 2023, June, levinassociates.com. Only includes values for dea
s reported. Certain acquirer types were also modified to more closely align with the services p

EXHIBIT 2

Trends in private equity (PE) penetration at the physician level in the US among 10 physician specialties, 2012–21



SOURCE Authors' analysis of data from the Irving Levin Associates Healthcare M&A Database, PitchBook private equity and merger and acquisition database, and OneKey Database provided by IQVIA (2020–21) and SK&A Office Based Physicians Database provided by IMS Health (now IQVIA) (2012–19). The PitchBook data presented here have not been reviewed by PitchBook analysts. The PitchBook database is dynamic; data for this figure are as of June 15, 2022. **NOTE** Average PE penetration rates at the physician level in each year by specialty were calculated by weighting each Metropolitan Statistical Area (MSA)-level market share by the number of full-time-equivalent physicians in that MSA by specialty, equivalent to the US penetration rate.

From 816 practices in 2012 to 5,779 practices in 2021 across 307 Metropolitan Statistical Areas (MSAs)
1/3 of MSAs: single PE firm has >30% market share

Levin Associates (2023)

Abdelhadi O, Fulton BD, Alexander L, Scheffler RM. Health Affairs (2024)

Acquisitions of MD Practices → ↑ Spending, Charges, Prices, Volume

Original Investigation

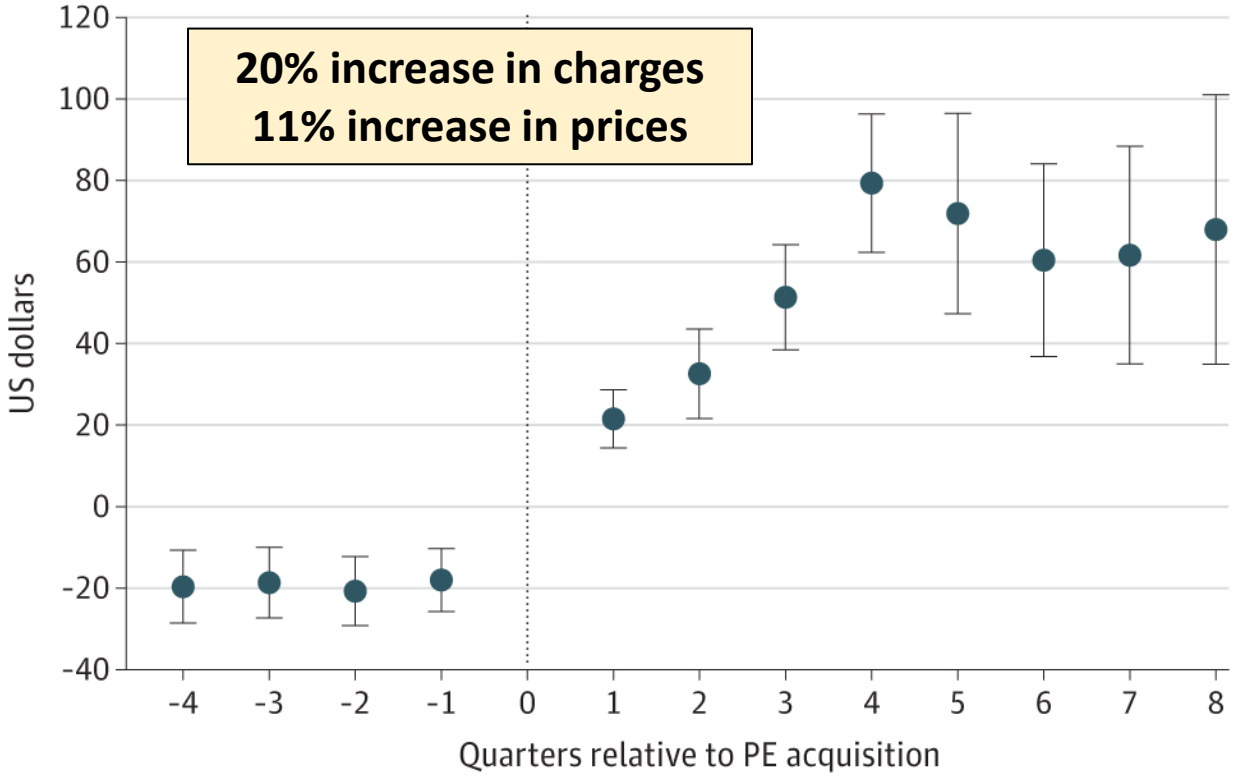
Association of Private Equity Acquisition of Physician Practices With Changes in Health Care Spending and Utilization

JAMA Health Forum (2022)

Yashaswini Singh, MPA; Zirui Song, MD, PhD; Daniel Polsky, PhD, MPP; Joseph D. Bruch, PhD; Jane M. Zhu, MD, MPP, MSHP

Table 1. Characteristics of PE- and Non–PE-Acquired Physician Practices at Baseline, 2015

Characteristic	Mean (SD)	
	PE-acquired	Non–PE-acquired[a]
Physician practices, No.	578	2874
Charge/claim, mean $	322 (258)	332 (326)
Allowed amount/claim, mean $	187 (136)	178 (136)
Total No.		
Unique patients	94 (182)	88 (172)
New patients	72 (136)	67 (132)
Encounters	124 (237)	118 (224)
E&M visits	75 (188)	72 (180)
Share of E&M visits >30 min		
New patients	0.26 (0.15)	0.26 (0.21)
Established patients	0.19 (0.17)	0.18 (0.22)
Patient HCC score, median	1.21 (1.05)	1.28 (1.10)



Relative to control, PE acquisitions led to:

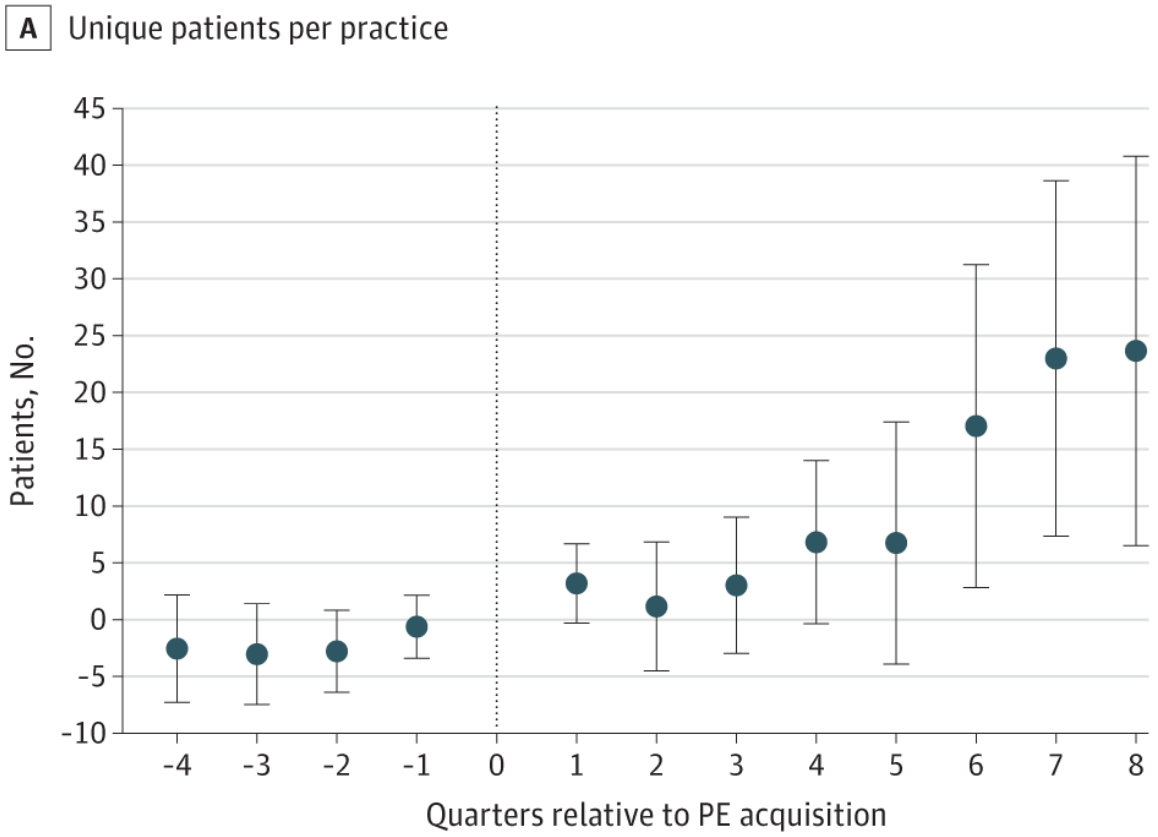
16% increase in aggregate volume

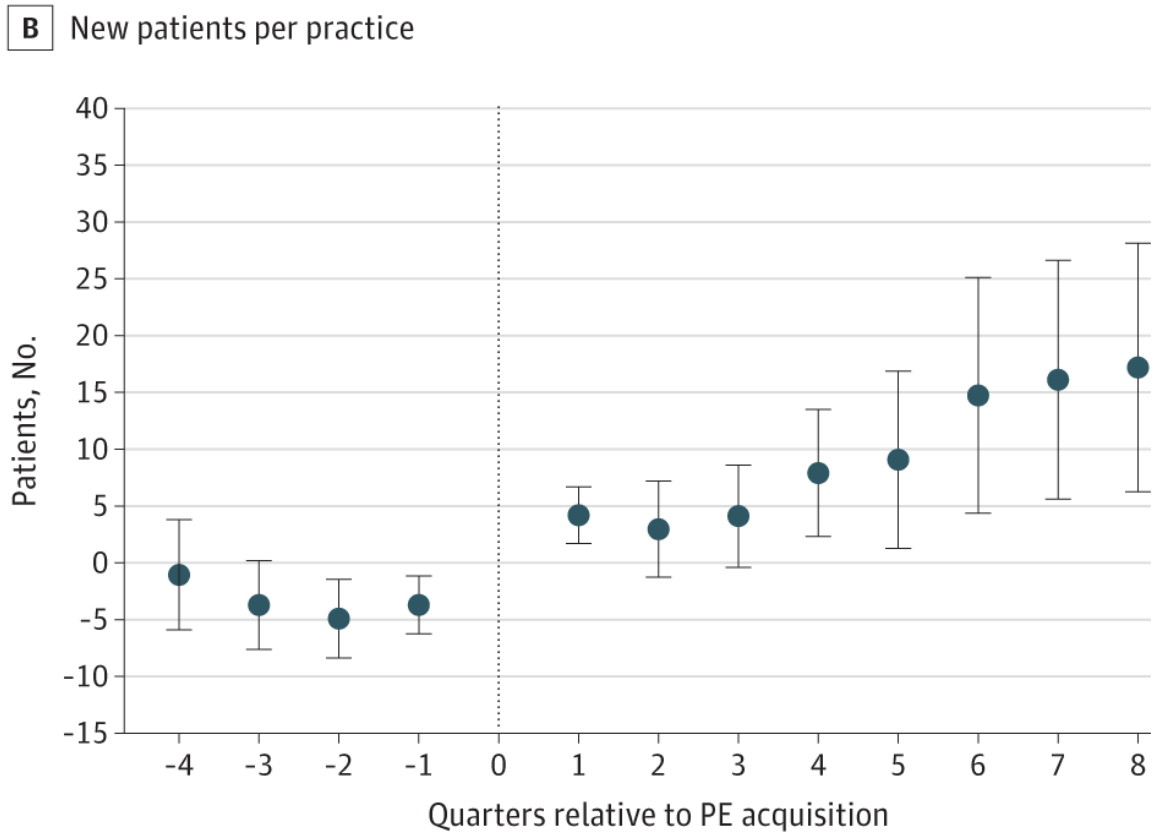
26% increase in unique patients

38% increase in new patient visits

9% increase in long (>30 min) visits

JAMA Health Forum





Singh Y, Song Z, Polsky D, Bruch JD, Zhu JM. JAMA Health Forum (2022)

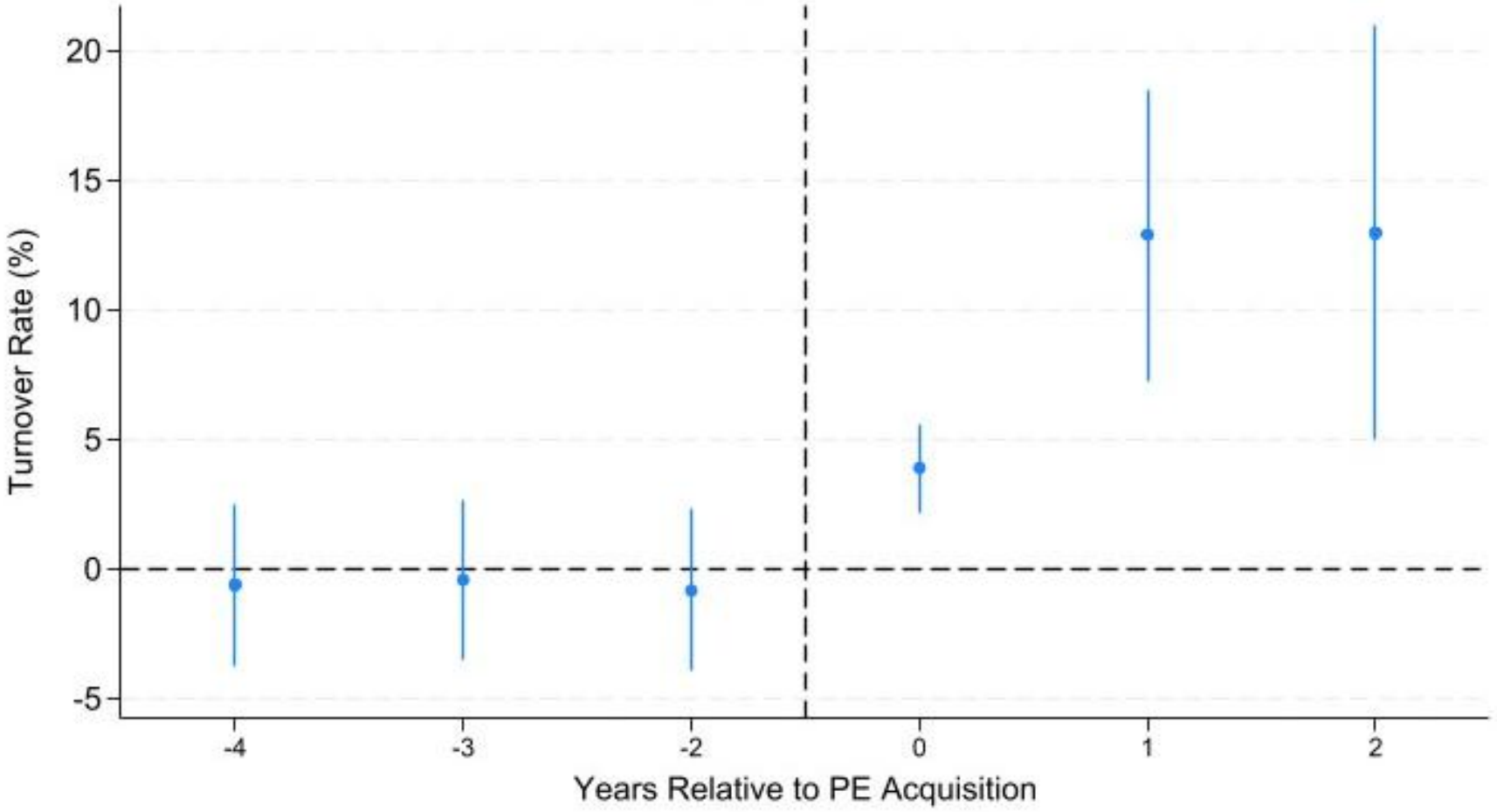
By Joseph Dov Bruch, Canyon Foot, Yashaswini Singh, Zirui Song, Daniel Polsky, and Jane M. Zhu

Workforce Composition In Private Equity–Acquired Versus Non–Private Equity–Acquired Physician Practices

Health Affairs

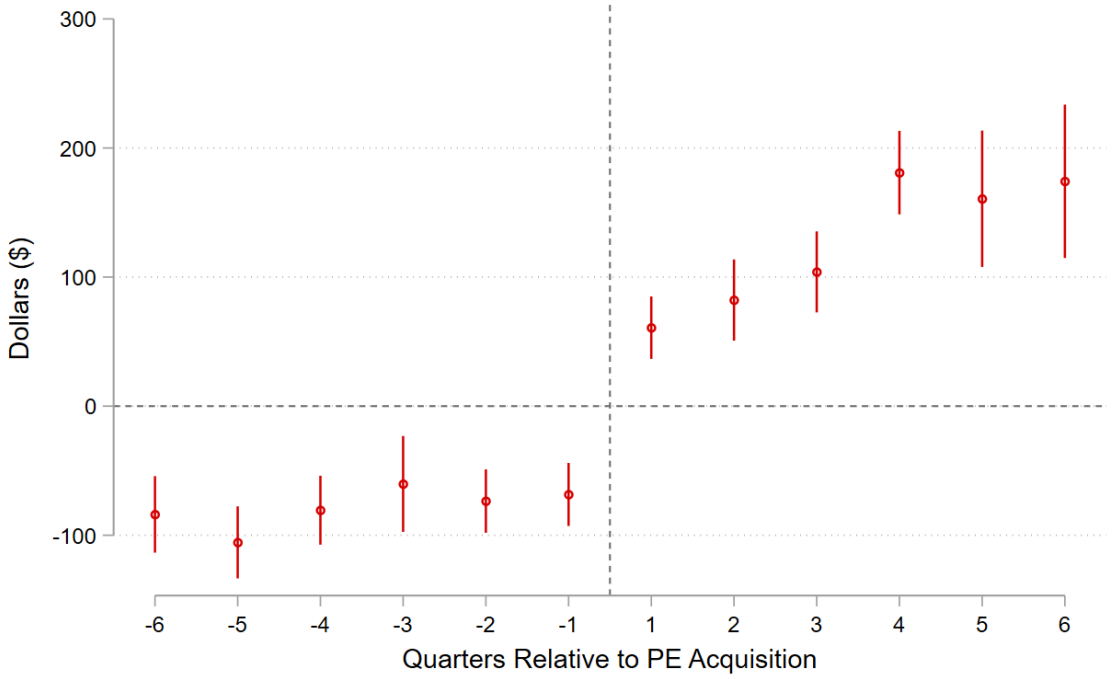
Relative to control, PE increases APP hiring.

PE acquisitions raised physician turnover rate by 13 percentage points (265% over baseline)



Additional Evidence on Acquisitions of Physician Practices

Private Equity GI vs. Health System GI

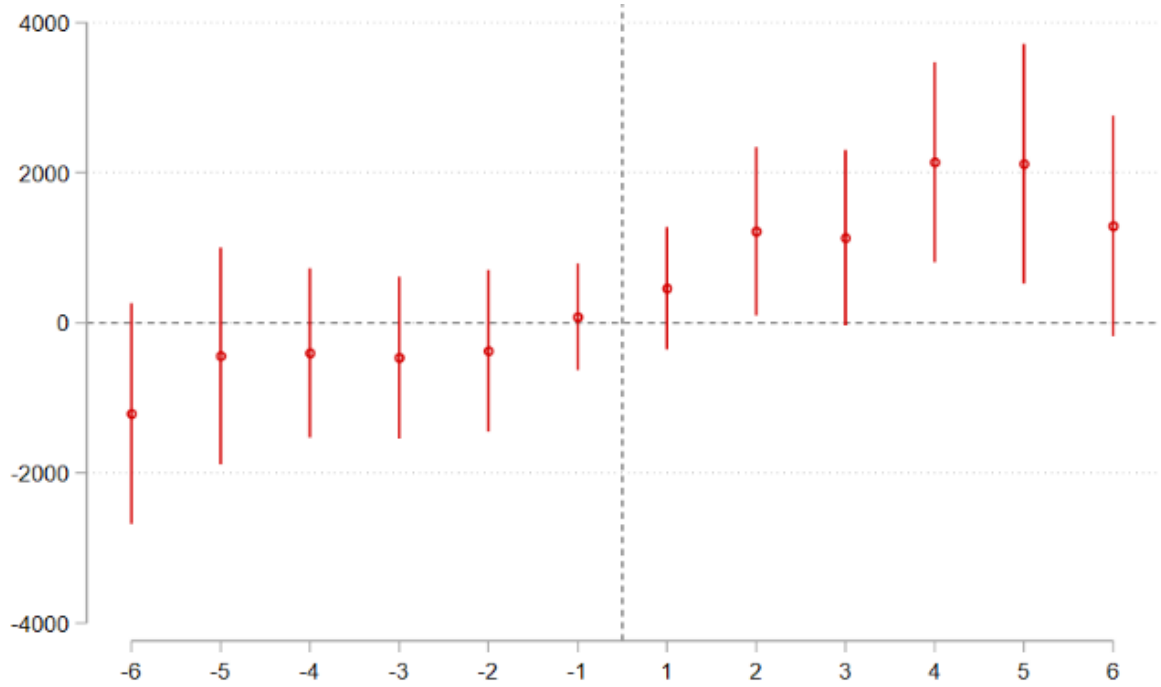


28% increase in <u>prices</u>
78% increase in professional fees
23% increase in patient volume

Singh Y, Song Z, Polsky D, Zhu JM. Under Revision

Private Equity Retina Practices vs. Control

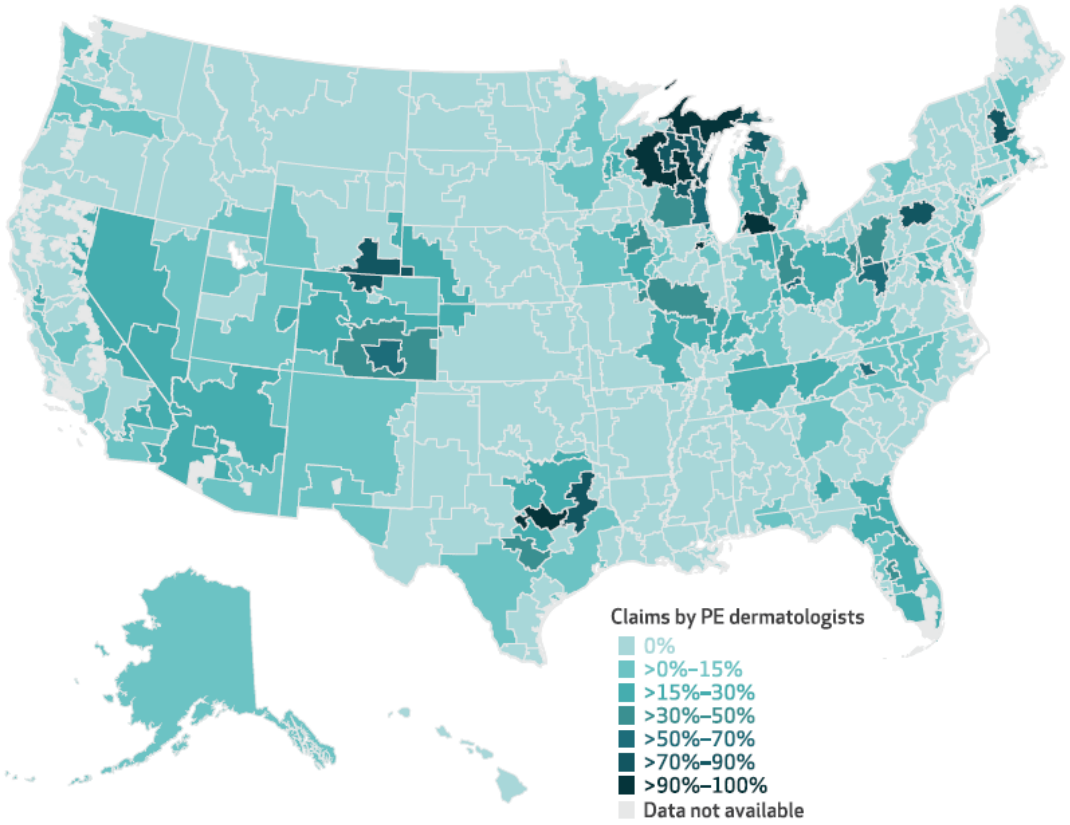
21% increase in <u>Medicare spending</u>
22% increase in expensive agents (Eylea)



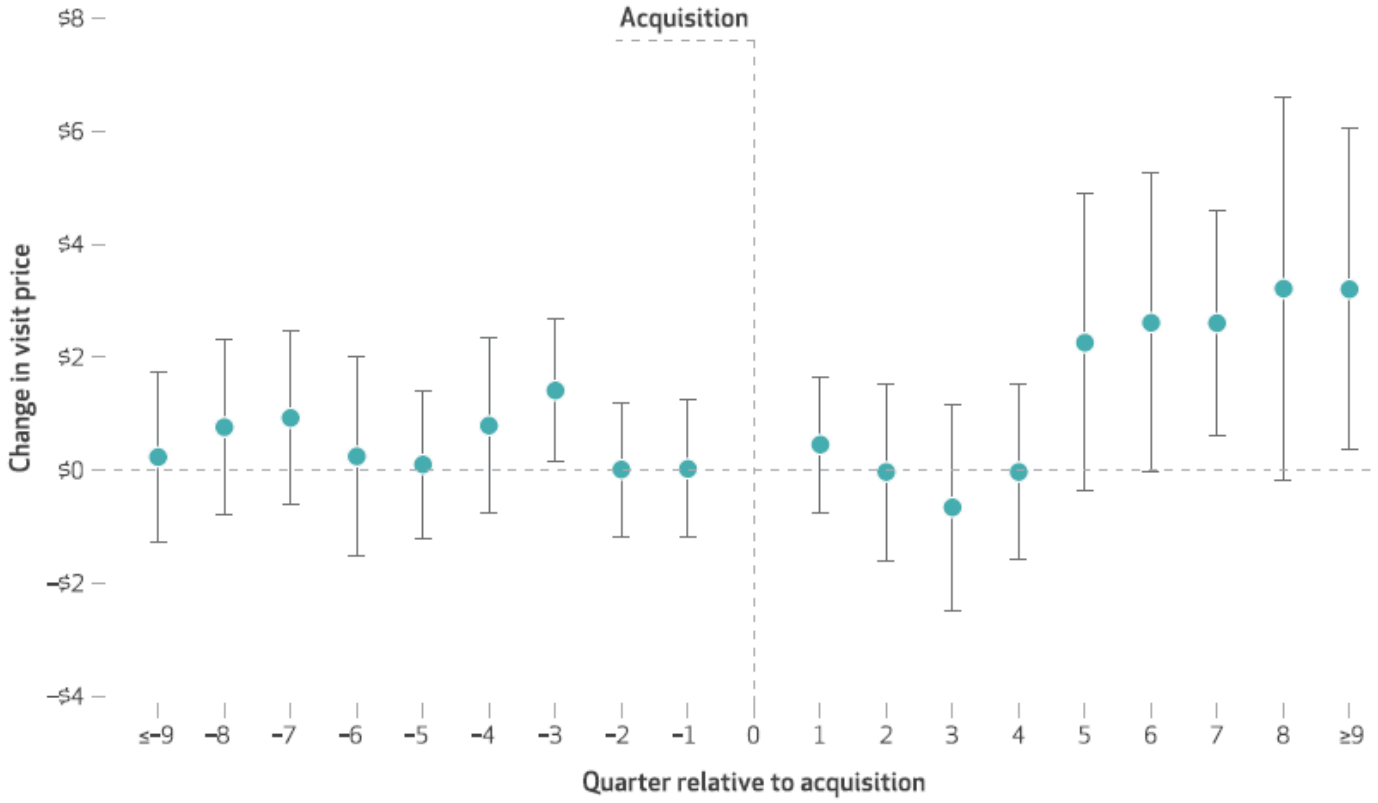
Singh Y, Aderman CM, Song Z, Polsky D, Zhu JM. Ophthalmology (2024)

Additional Evidence on Acquisitions of Physician Practices

Percent of dermatologist claims made by private equity (PE) dermatologists, by hospital referral region, 2017



Effect of private equity acquisition on the price of a routine dermatology office visit, by quarter, 2012–17



"At 1.5 years after acquisition, prices paid to private equity dermatologists for routine medical visits were 3-5 percent higher than those paid to non-private equity dermatologists. There was no significant consistent impact on dermatology spending or use of biopsies, lesion destruction, or Mohs surgery."

Braun RT, Bond AM, Qian Y, Zhang M, Casalino LP. Health Affairs. 2021.

Additional Evidence on Acquisitions of Physician Practices

JAMA Internal Medicine | Original Investigation

Association of Physician Management Companies and Private Equity Investment With Commercial Health Care Prices Paid to Anesthesia Practitioners

Ambar La Forgia, PhD; Amelia M. Bond, PhD; Robert Tyler Braun, PhD; Leah Z. Yao, BS; Klaus Kjaer, MD, MBA; Manyao Zhang, MA; Lawrence P. Casalino, MD, PhD

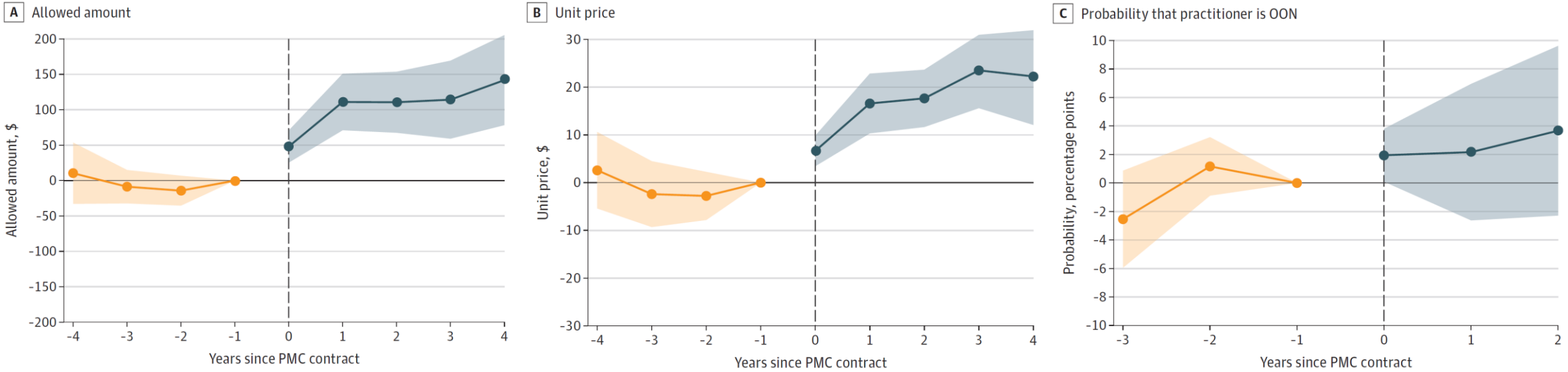
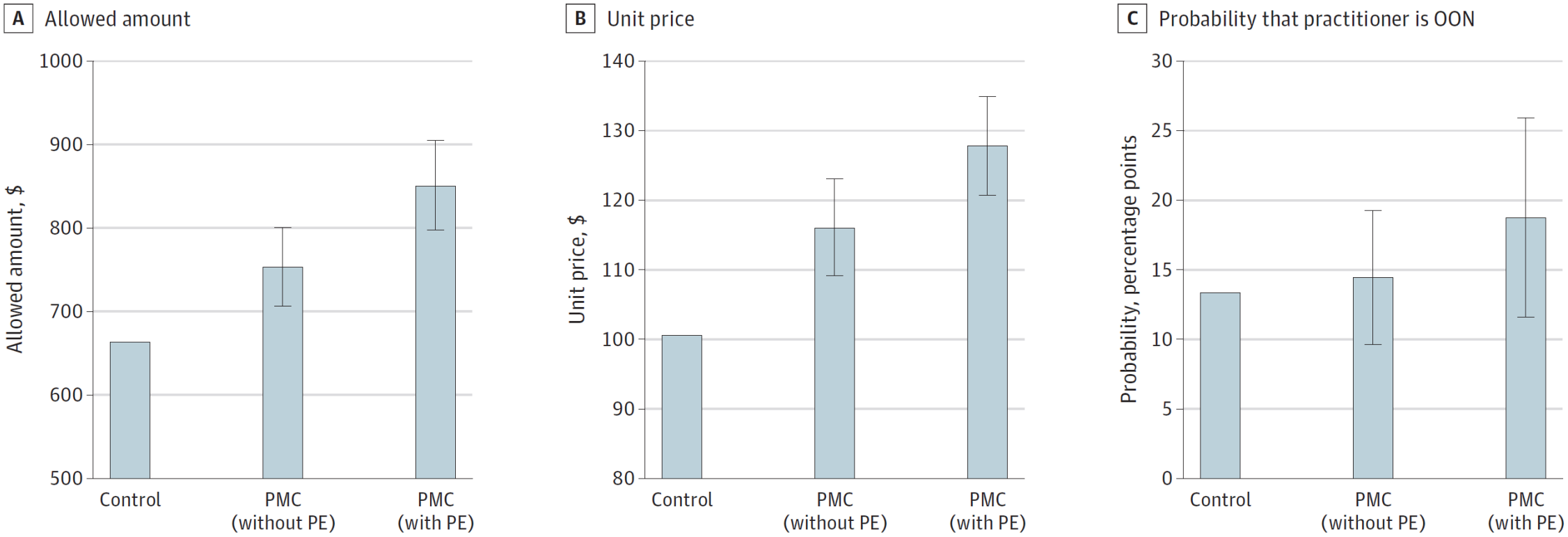


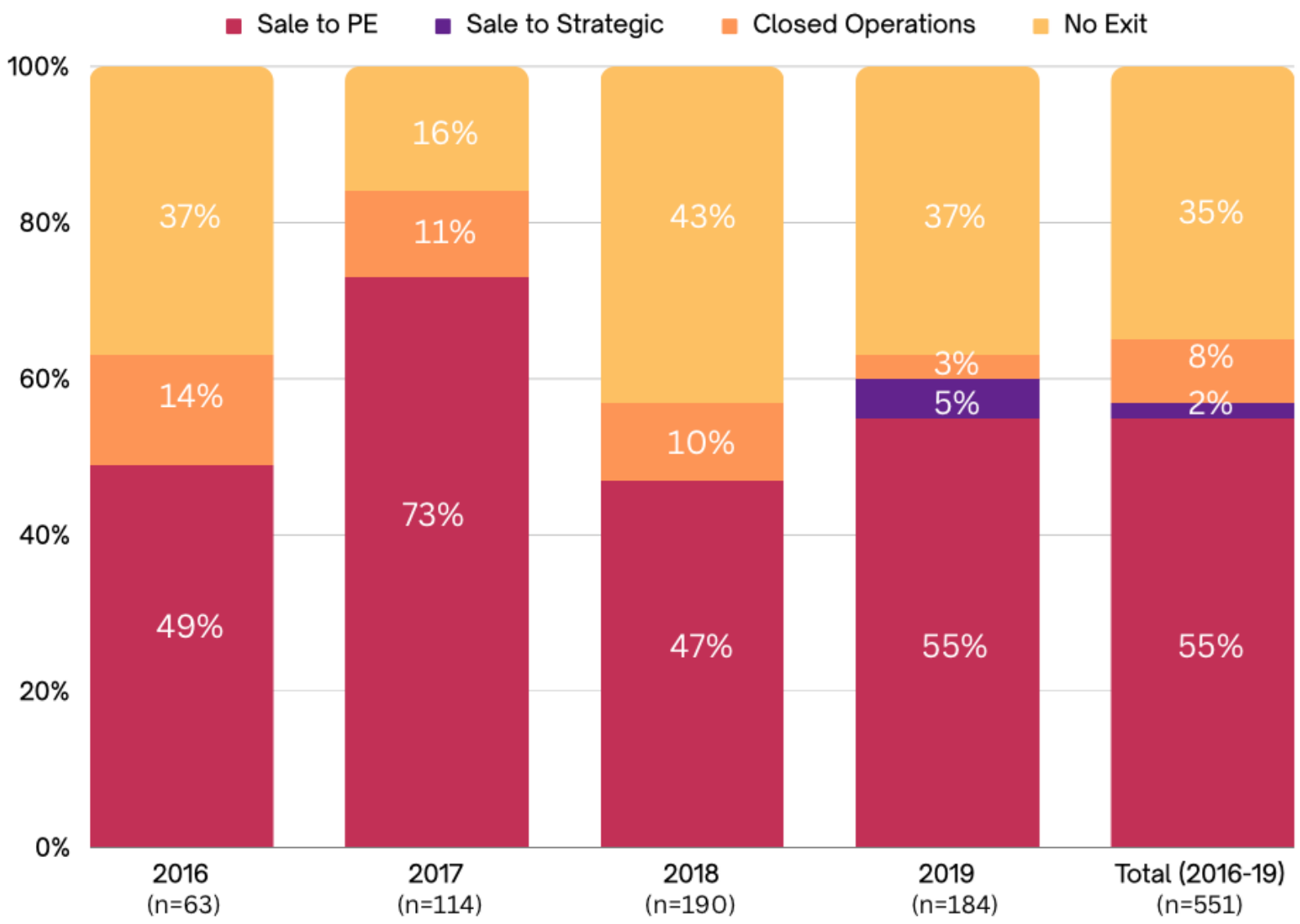
Figure 2. Adjusted Differential Changes in Outcomes Associated With Physician Management Company (PMC) Contract With and Without Private Equity (PE) Investment



Adjusted difference-in-differences estimates from the specification interacting the post-PMC contract indicator with an indicator for whether the PMC received PE investment, relative to the regression-adjusted mean value of the control facilities, are shown. Therefore, the difference between the height of the PMC bars and the control bar represents the differential change in each outcome relative to control facilities, with the corresponding 95% CIs (error bars). The regression-adjusted difference (95% CI) between PMCs with PE relative to without PE is as follows: +$97.18 ($35.38 to $158.97) for allowed amounts, +$11.71 ($4.46to $18.95) for unit prices, and +4.34 percentage points (−2.11 to 10.79) for the probability that a practitioner is out-of-network (OON). See eTable 9 in the Supplement for the regression output.

La Forgia A, Bond AM, Braun RT, Yao LZ, Kjaer K, Zhang M, Casalino LP. JAMA Internal Medicine. 2022

Exit Strategies of Private Equity Firms



551 PE-acquired physician practices from 2016-2019:

55% resold to second PE owner within 3 years

2% resold to strategic buyer

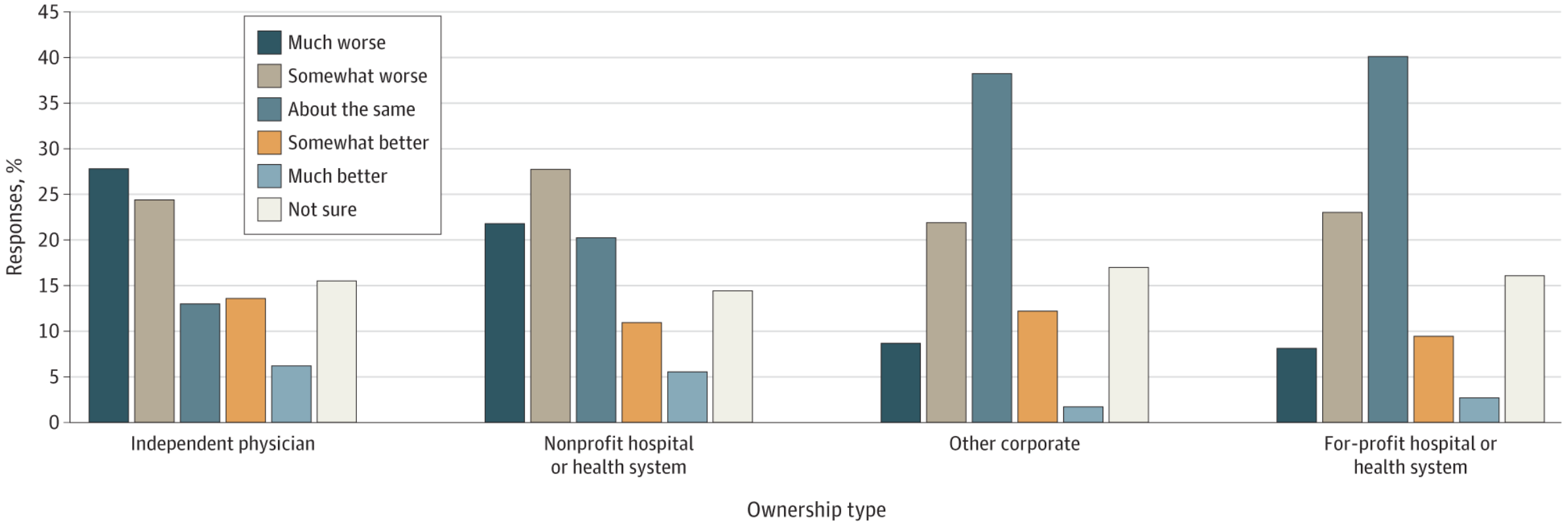
8% closed operations

Health Affairs Scholar

Singh, Y., Reddy, M., Zhu, J. M. (2024).

Physician Perceptions of Private Equity

Favorability of Private Equity Ownership Compared With Other Types of Ownership

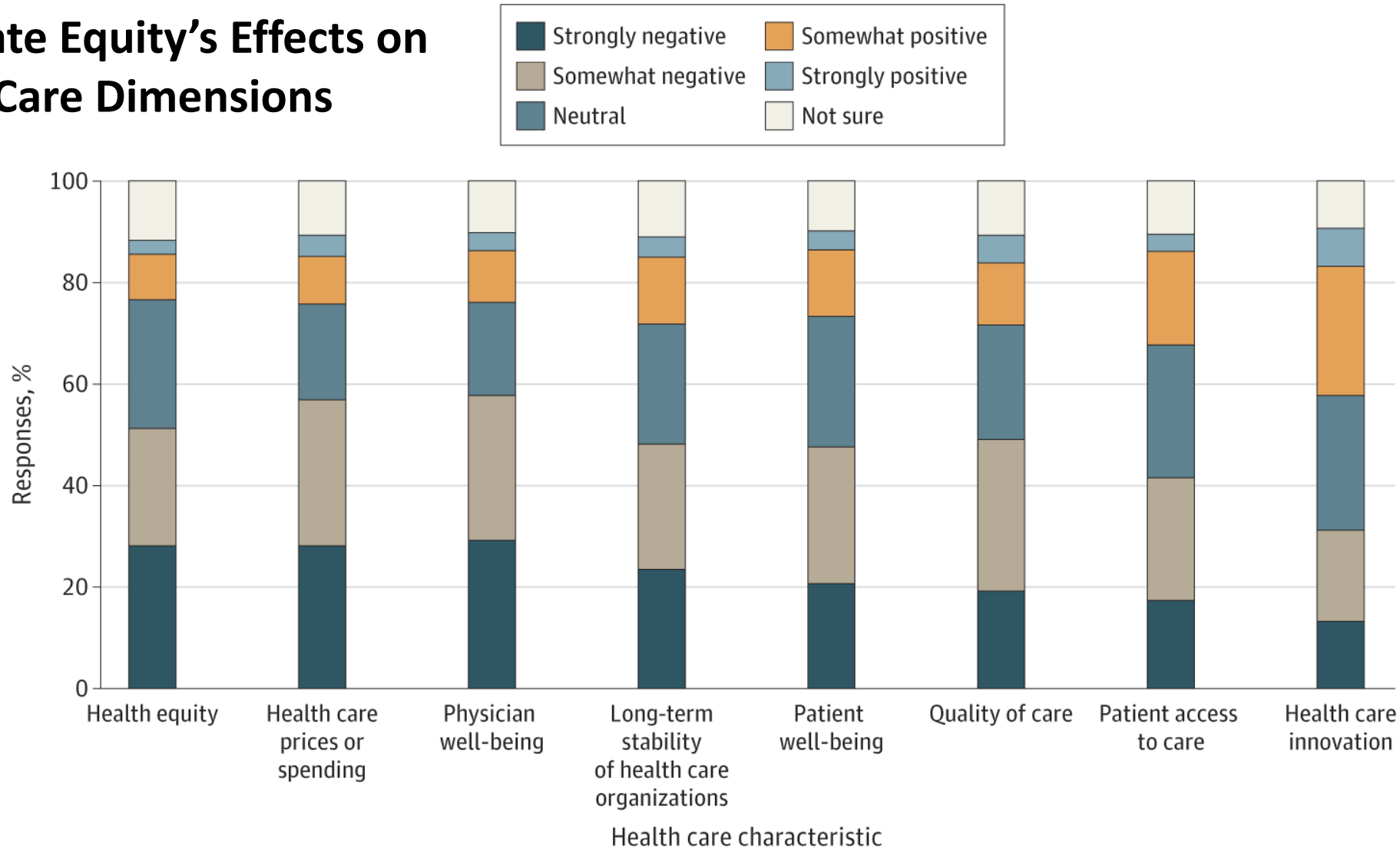


N=1397 MDs

Zhu JM, Zeveney A, Read S, Crowley R. JAMA Intern Med (2024)

Physician Perceptions of Private Equity

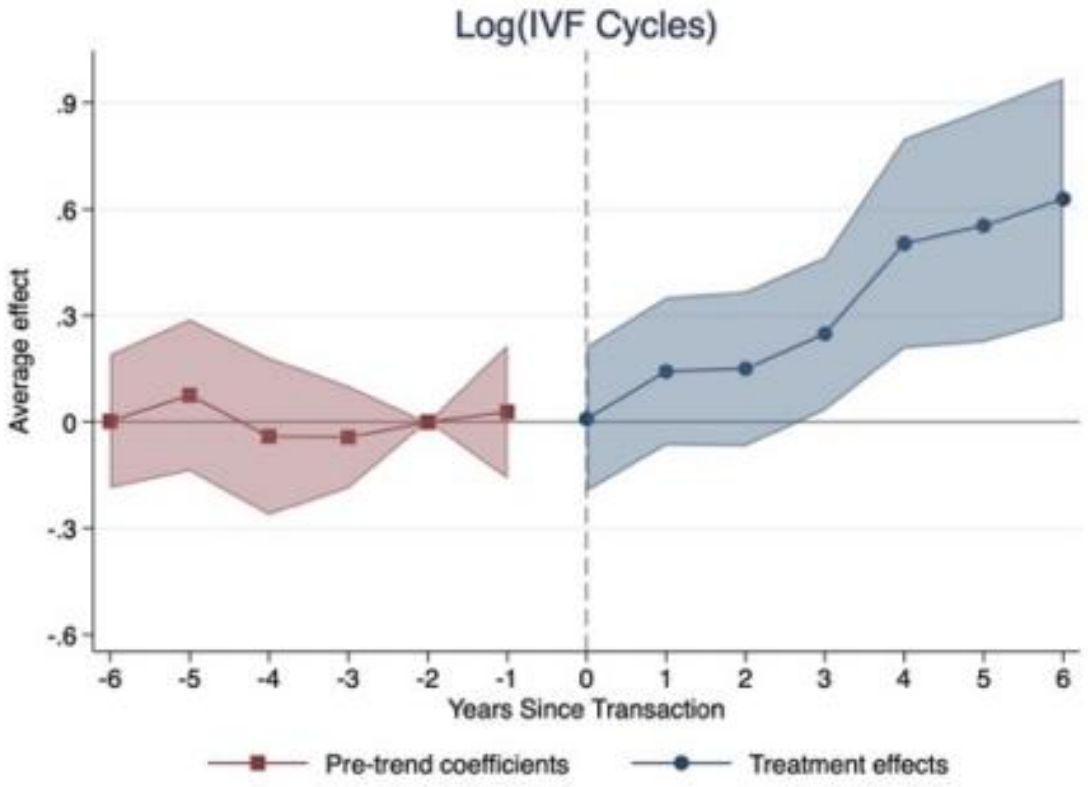
Perspectives of Private Equity's Effects on Various Health Care Dimensions

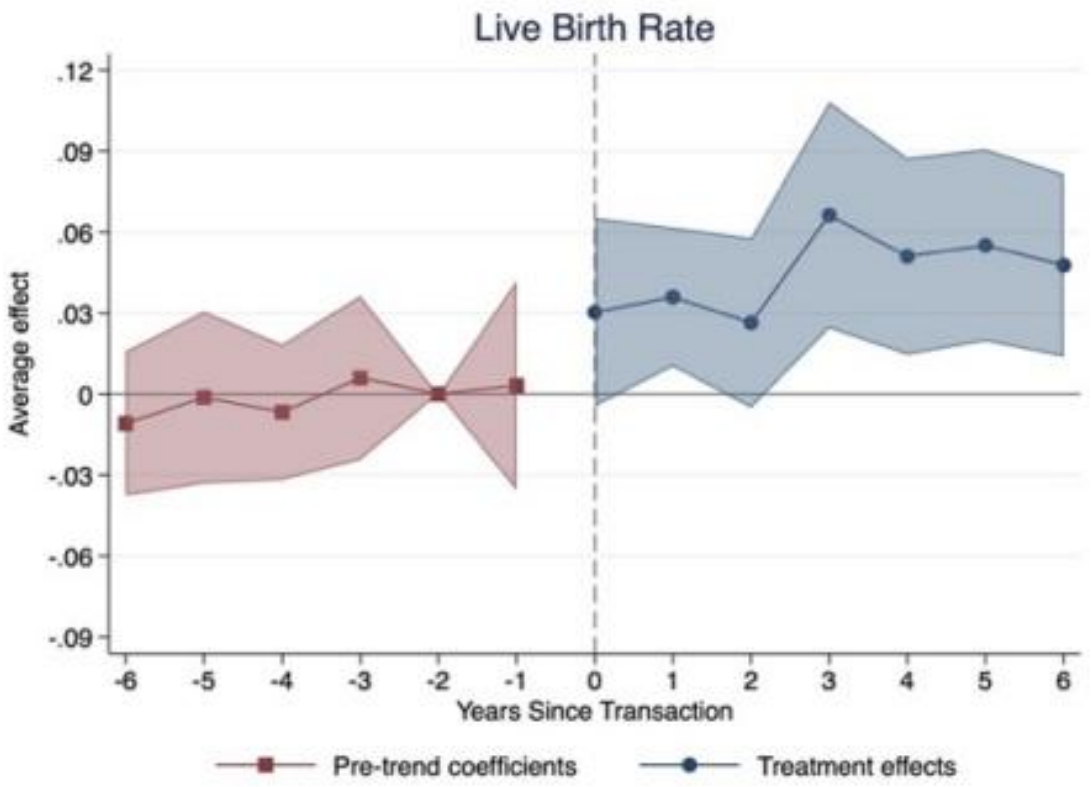


N=1397 MDs

Zhu JM, Zeveney A, Read S, Crowley R. JAMA Intern Med (2024)

From the Beginning of Life – Fertility Clinics

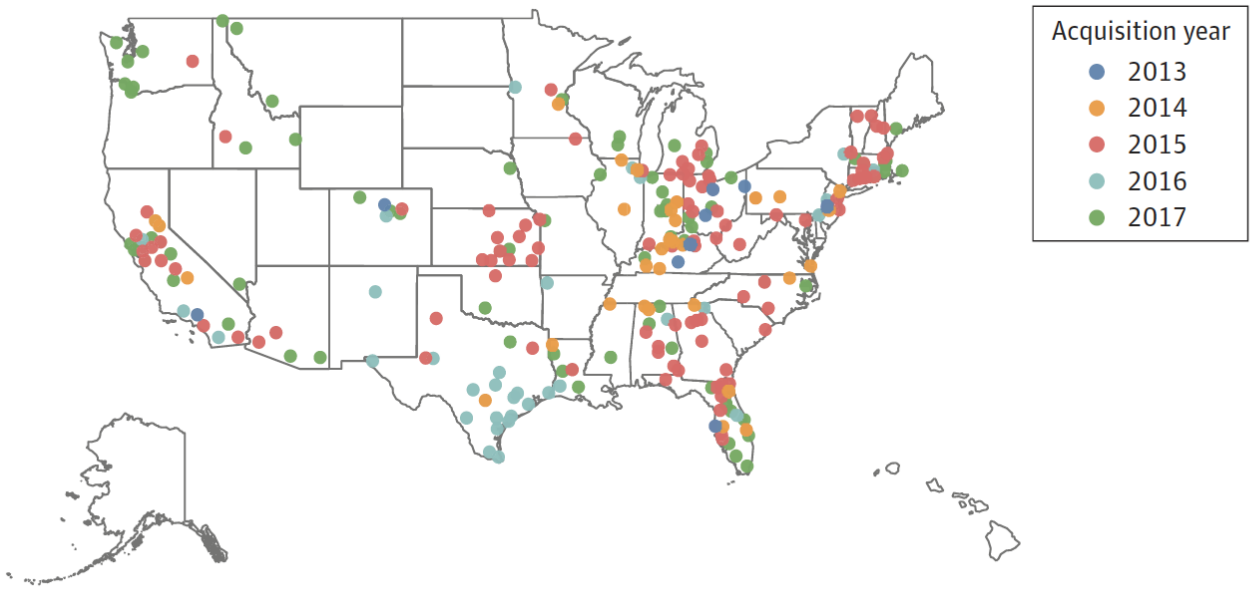


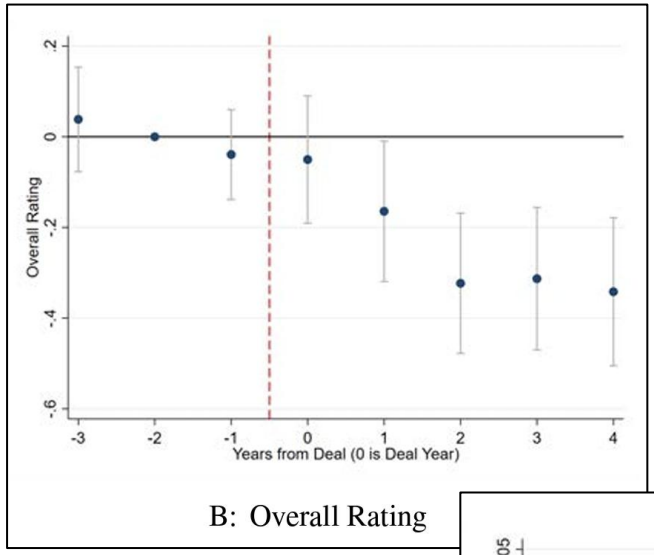


Private equity invests in 8 of 11 fertility chains. Total IVF price = $40-60K.
Acquisition → 27% ↑ in volume, 14% ↑ in IVF success rate.
No evidence of patient selection.

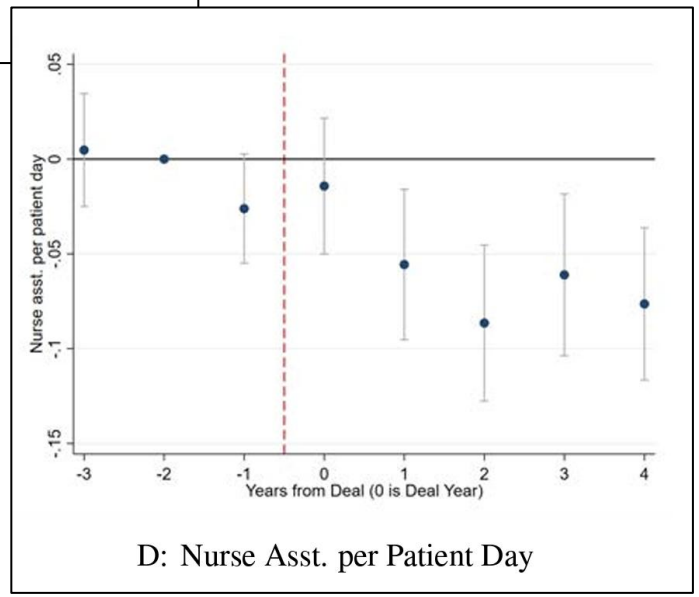
La Forgia and Bodner (Management Science, 2025)

To Older Age – Nursing Homes





B: Overall Rating



D: Nurse Asst. per Patient Day

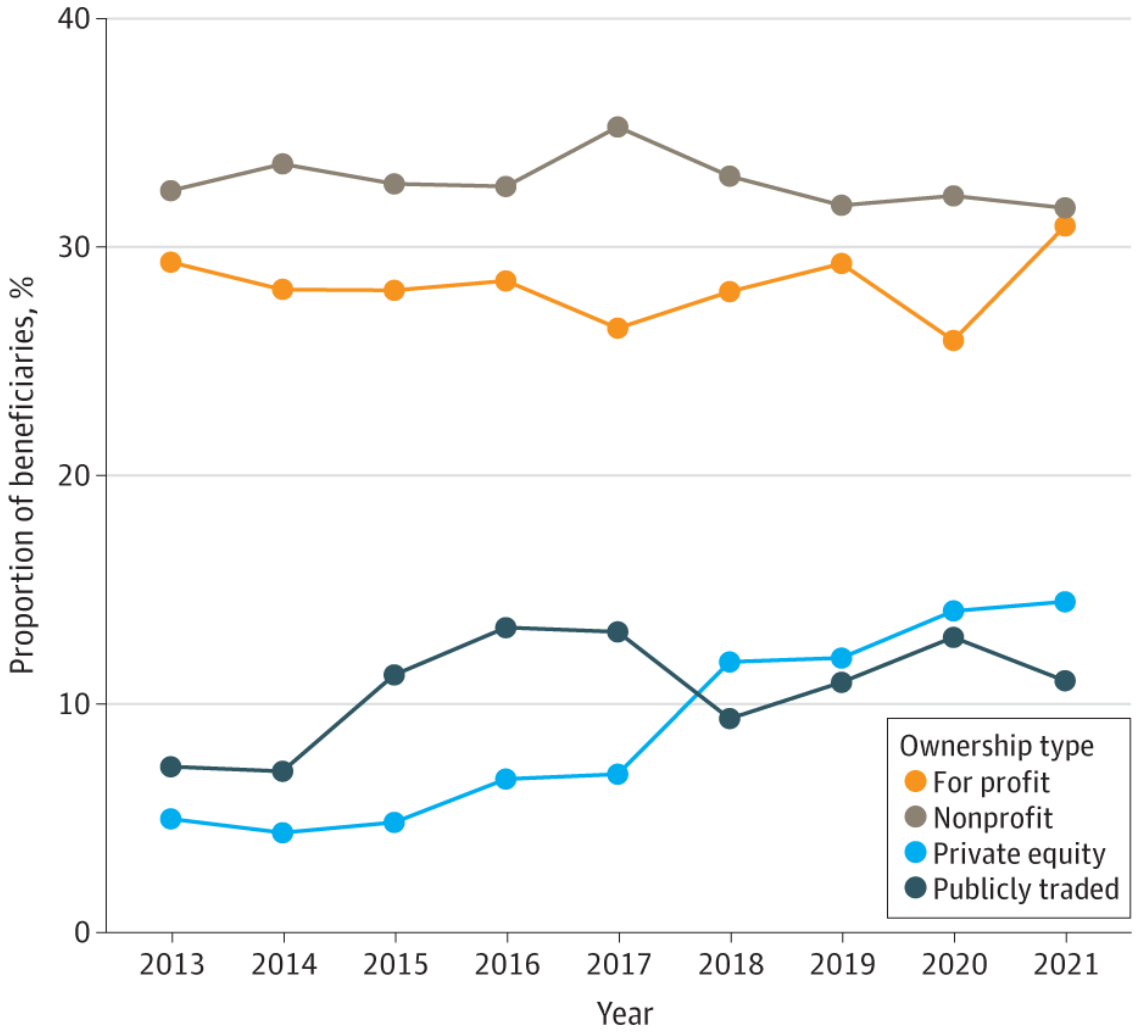
PE acquisitions increased:

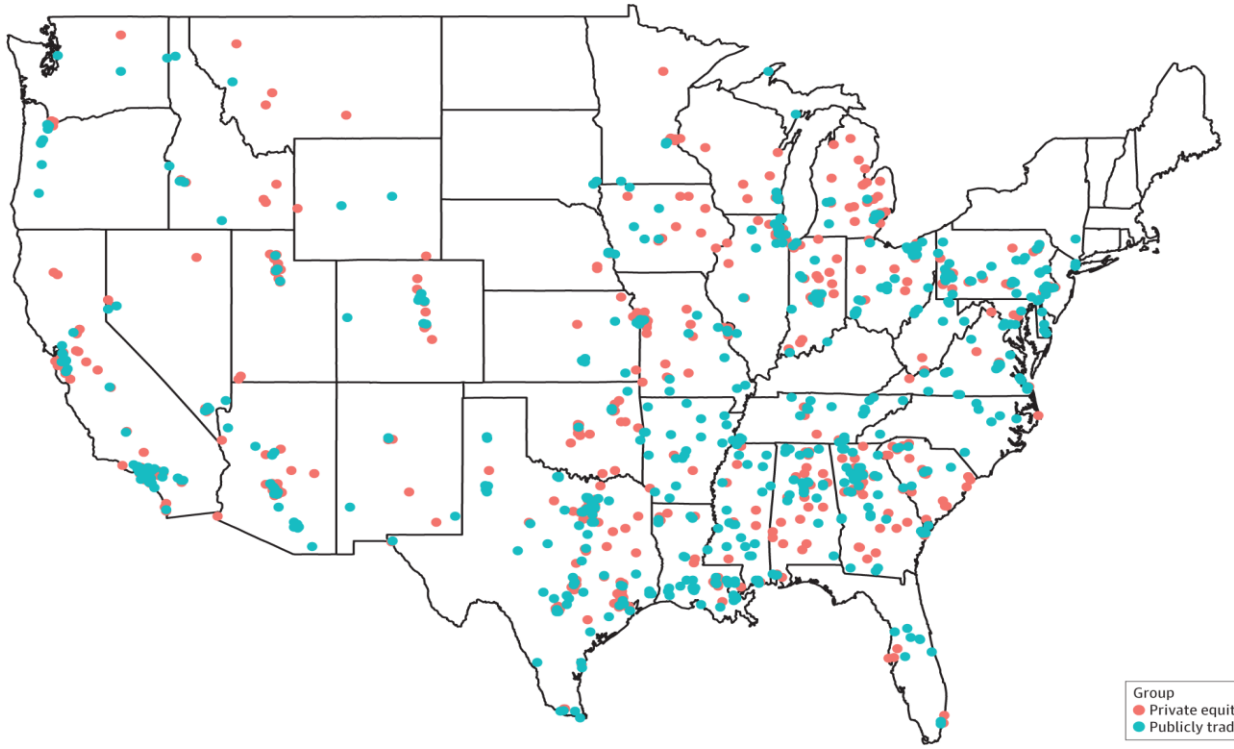
ED visits	11%
Hospitalizations	9%
Medicare spending	4%
Mortality	10%

Braun R, Jung HY, Casalino L, Myslinksi L, Unruh M. JAMA Health Forum (2021)

Gupta A, Howell S, Yannelis C, Gupta A. Review of Financial Studies (2023)

To the End of Life – Hospice

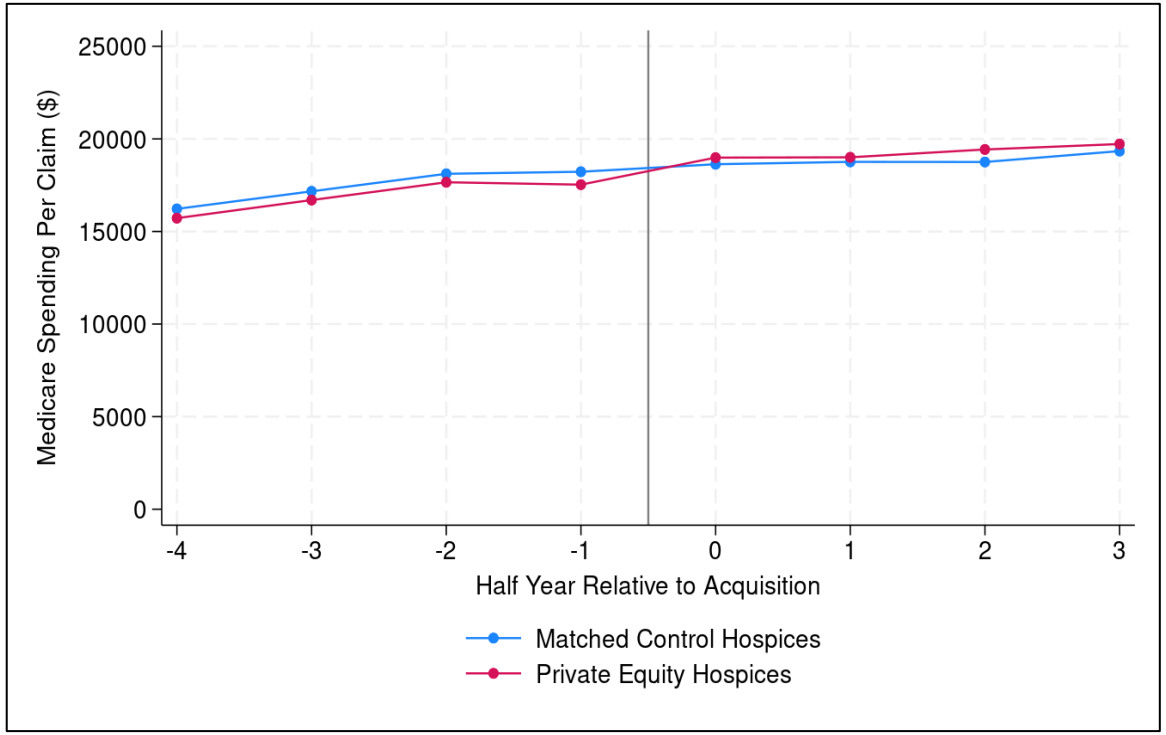




Braun RT, Unruh MA, Stevenson DG, Prigerson HG, Fernandez R, Yao LZ, Casalino LP. JAMA Network Open (2023)

To the End of Life – Hospice

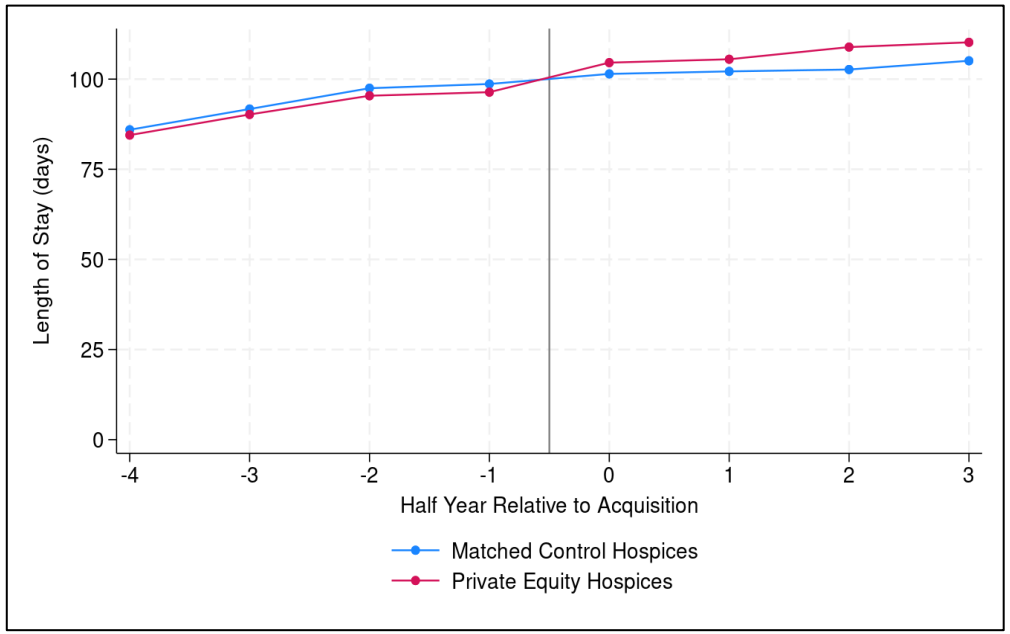
Hospice Characteristics	Private Equity (N = 187)	Control (N = 1,273)
Ownership		
For-profit	187 (100.0)	1273 (100.0)
Region		
Northeast	10 (5.3)	77 (6.0)
South	81 (43.3)	578 (45.4)
Midwest	44 (23.5)	264 (20.7)
West	52 (27.8)	354 (27.8)
Average Daily Census	86.3	84.6
Average Risk Score	2.5	2.5
Medicare Beneficiary Characteristics	**Private Equity (N = 28,329)**	**Control (N = 157,989)**
Age (mean (S.D.))	82.3 (10.6)	82.3 (10.6)
Sex (% Female)	58.2	57.4
Dual Eligible (%)	30.5	33.9
Race (%)		
Asian	714 (0.4)	4,516 (0.3)
Black	5,691 (9.1)	37,022 (9.0)
Hispanic	1,252 (2.0)	9,969 (2.4)
Native American	397 (0.6)	2,174 (0.5)
Other/Unknown	900 (1.4)	6,110 (1.5)
Non-Hispanic White	53,608 (85.7)	352,163 (85.5)

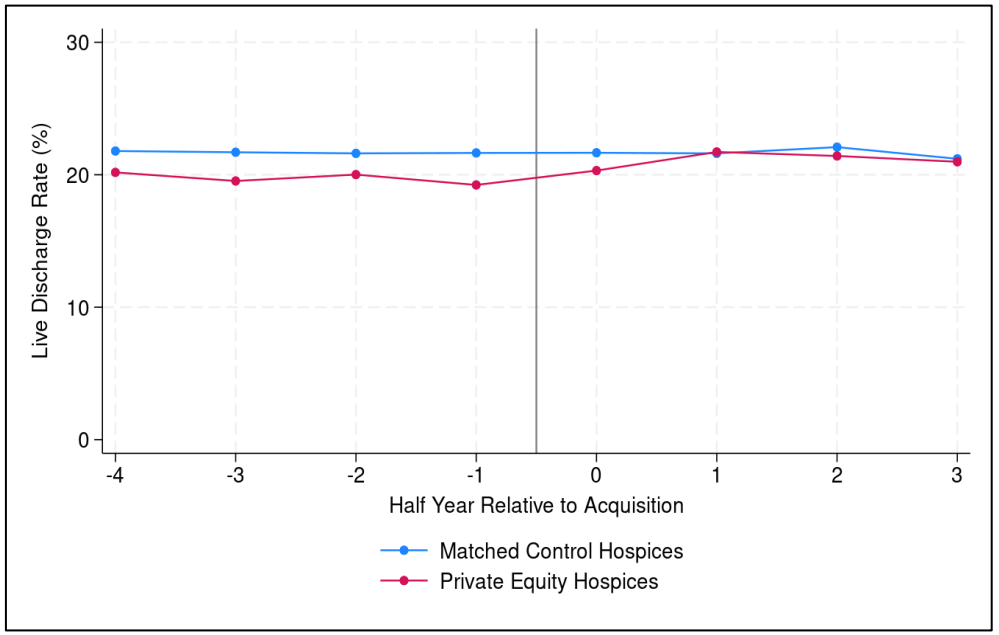


4.8% ↑ in Medicare spending on hospice, driven by a 5.5% ↑ in length of stay, relative to control

Kannan S, Driessen J, Kahn JM, Mankiw C, Song Z. Under review

	Private Equity Hospices (N=206,568)		Control For-Profit Hospices (N=1,202,821)		Unadjusted Difference-in-Differences†	Adjusted Difference-in-Differences‡ (%) [95% CI]	p-value
	Pre	Post	Pre	Post			
Spending and Utilization							
Claim Payment Amount ($)	16,924	19,306	17,462	18,968	876.50	806.80 (4.8) [274.32 to 1,339.27]	0.003
Claim Length of Stay (days)	91.8	107.9	93.6	103.3	6.49	5.08 (5.5) [1.96 to 8.20]	0.001
Visits per Day	4.5	3.9	6.1	5.7	-0.13	0.04 (0.8) [-0.20 to 0.27]	0.76
Visits in the Last Week of Life	21.8	19.1	33.6	31.7	-0.82	0.01 (0.1) [-1.50 to 1.52]	0.99
Discharge Outcomes							
Short Stay (<7 days, %)	24.0	22.4	24.1	24.7	-2.25	-1.15 (-4.8) [-1.82 to -0.49]	<0.001
Long Stay (>180 days, %)	16.4	18.8	16.8	17.6	1.64	0.80 (4.9) [0.10 to 1.50]	0.02
Live Discharge (%)	19.7	20.9	21.7	21.2	1.71	2.19 (11.1) [1.40 to 2.97]	<0.001
Patient Mix (Primary Dx)							
Dementia (%)	22.6	23.8	20.3	20.3	1.22	0.86 (3.8) [0.06 to 1.66]	0.03
Cancer (%)	22.3	21.3	22.2	21.3	-0.09	0.14 (0.6) [-0.51 to 0.78]	0.68





Kannan S, Driessen J, Kahn JM, Mankiw C, Song Z. Under review

Policy Framework for Private Equity

VIEWPOINT

A Policy Framework for the Growing Influence of Private Equity in Health Care Delivery

JAMA

F	Fraud & abuse	Enforce federal statutes including Anti-Kickback, Stark Laws
A	Antitrust	A) Federal: improve staffing and bandwidth for oversight at FTC B) State: state AGs, "corporate practice of medicine" laws
M	Moral hazard	A) Affiliation rule that ties acquired entities to the parent PE firm B) Limit the % debt used to make an acquisition C) Closure of the 20% carried interest “loophole”
P	Patients & prices	A) No Surprises Act prohibiting surprise billing in certain situations B) Price regulation to mitigate arbitrage incentive of consolidation
T	Transparency	Lower the threshold ($119 million) for mandatory reporting of PE acquisitions and the % debt used in the acquisition.

Cai C, Song Z. JAMA (2023)

VIEWPOINT

A Policy Framework for the Growing Influence of Private Equity in Health Care Delivery

1	Fraud & Abuse	Enforcement of federal statutes: e.g. Anti-Kickback, Stark Laws
2	Antitrust	A) Federal: staffing and oversight at the Federal Trade Commission B) States: Attorneys General, "corporate practice of medicine" laws
3	Risky Behaviors	A) Affiliation rule: boost PE accountability to their acquired entities B) Lower the % debt placed on the acquired entity (financial risk) C) Reform the 20% tax rate for PE profits (carried interest "loophole")
4	Patients & Prices	A) No Surprises Act: prohibiting surprise billing in certain situations B) Slow price growth to protect patients, employers, and taxpayers
5	Transparency	A) Lower the threshold ($119 million) for reporting of acquisitions B) Public reporting of owners and investors (MA, IN, other states)

Cai C, Song Z. JAMA (2023)

JAMA Forum

The New Role of Private Investment in Health Care Delivery

David M. Cutler, PhD; Zirui Song, MD, PhD (2024)

Disruptive innovation as a business philosophy has brought benefits to many parts of the economy. But in health care delivery, evidence increasingly suggests that not all disruption creates value for patients. A central issue for policy is how to encourage truly value-adding innovation for patients and payers without hurting patients or bankrupting society.

OWNERSHIP

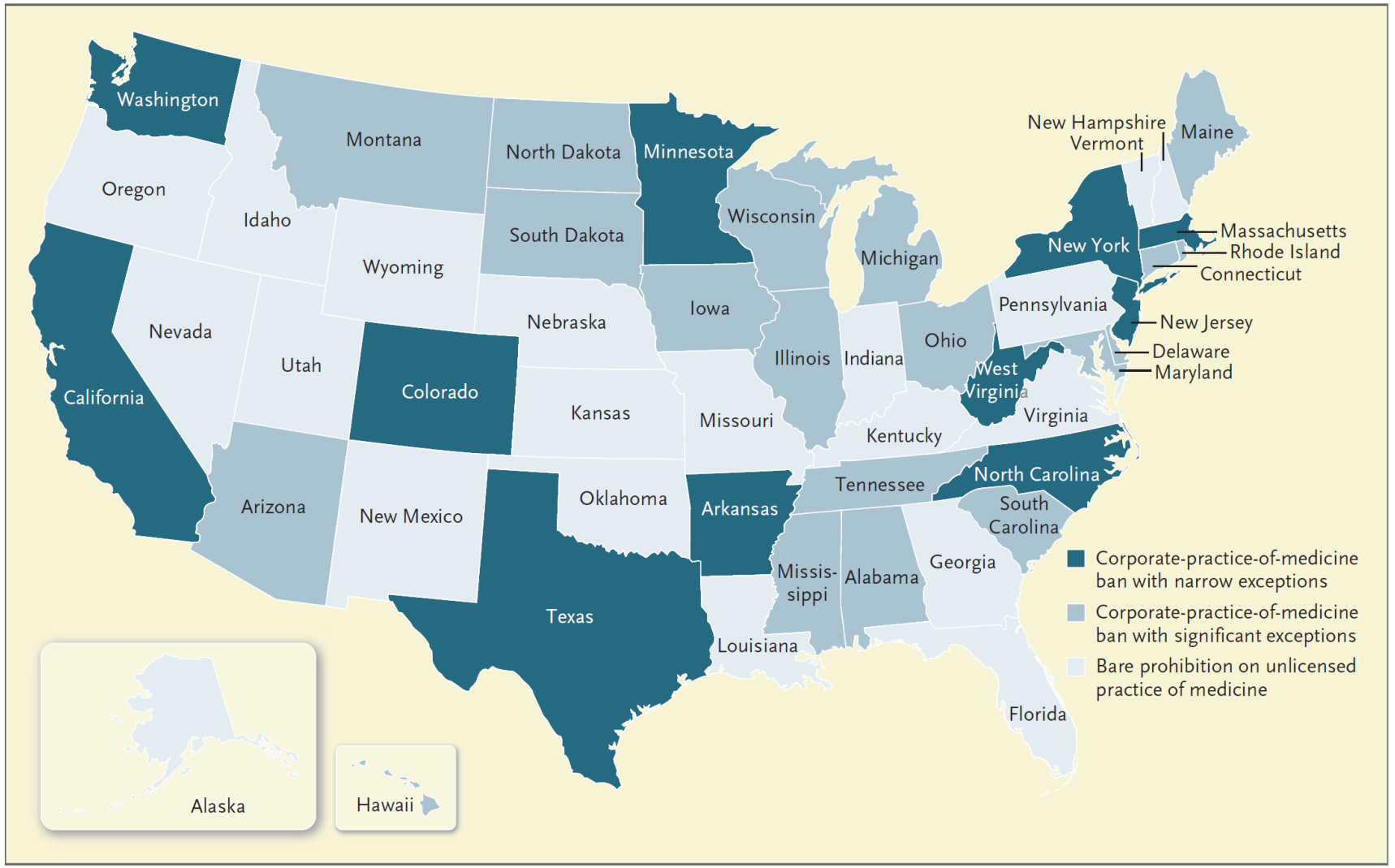
By Christopher Cai and Zirui Song (2024)

POLICY INSIGHT

Protecting Patients And Society In An Era Of Private Equity Provider Ownership: Challenges And Opportunities For Policy

ABSTRACT **Private equity (PE) acquisitions in health care delivery nearly tripled from 2010 to 2020. Despite concerns around clinical and economic implications, policy responses have remained limited. We discuss the US policy landscape around PE ownership, using policies in the European Union for comparison. We present four domains in which policy can be strengthened. First, to improve oversight of acquisitions, policy makers should lower reporting thresholds, review sequential acquisitions that together affect market power, automate reviews with potential denials based on market concentration effects, consider new regulatory mechanisms such as attorney general veto, and increase funding for this work. Second, policy makers should increase the longer-run transparency of PE ownership, including the health care prices garnered by acquired entities. Third, policy makers should protect patients and providers by establishing minimum staffing ratios, spending floors for direct patient care, and limits on layoffs and the sale of real estate after acquisition (forms of "asset stripping"). Finally, policy makers should mitigate risky financial behavior by limiting the amount or proportion of debt used to finance PE acquisitions in health care.**

Corporate Practice of Medicine Laws at the State Level



Scope of State Corporate-Practice-of-Medicine Laws in the United States.

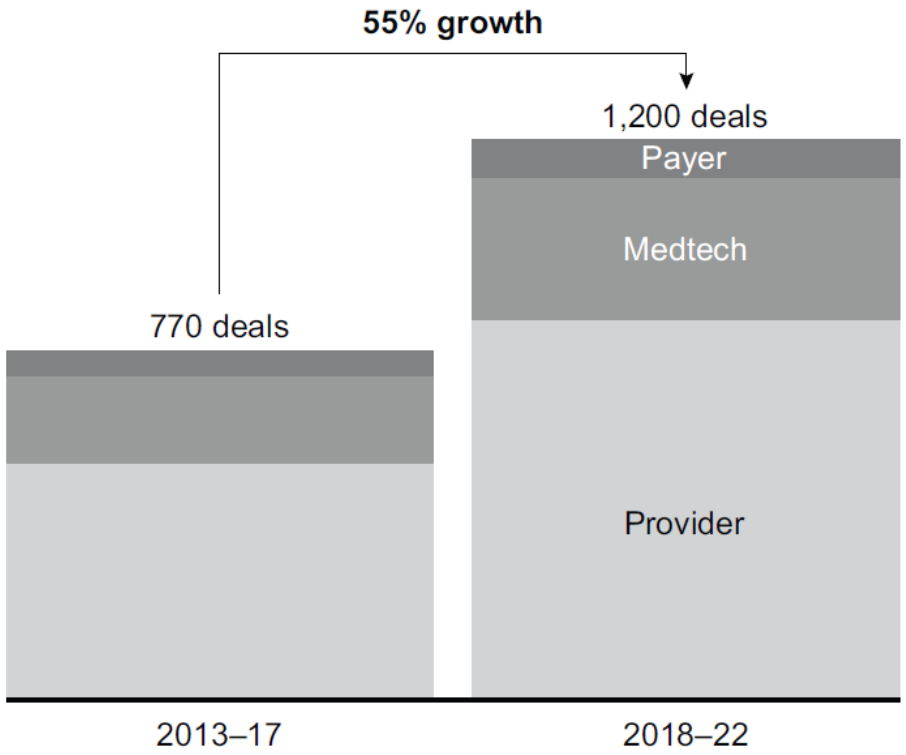
Information is based on the authors' analysis of primary documents and summaries of legal texts as of April 2023.

Zhu JM, Rooke-Ley H, Fuse-Brown E. NEJM (2023)

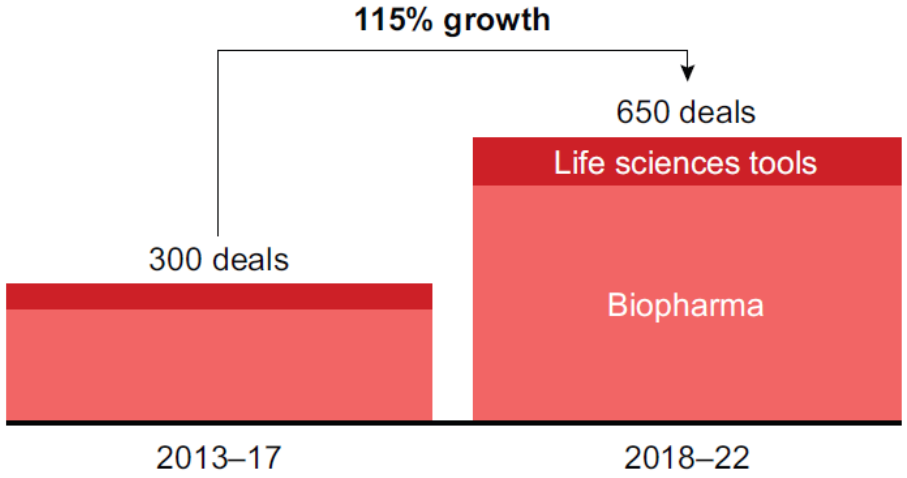
Extra Slides

Global Private Equity Deals in Health Care

Global healthcare deal volume for provider, payer, and medtech sectors



Global healthcare deal volume for biopharma and life sciences tools sectors



Notes: Excludes spin-offs, add-ons, loan-to-own transactions, special purpose acquisitions, and acquisitions of bankrupt assets; based on announcement date includes announced deals that are completed or pending, with data subject to change; deal value does not account for deals with undisclosed values; values updated based on Dealogic 2020 sponsor classifications; values include net debt where relevant; deal totals are rounded
Sources: Dealogic; AVCJ; Bain analysis

Bain and Company, 2023

“The Body Was Not Even Cold”

To

Subject

Dear Dr. [redacted]

Our sincere condolences for the loss of your patient.

The Clinical Documentation Integrity (CDI) team reviews the charts of all deceased patients to make sure that the documentation captures the full complexity of the case. Having performed this review, we would appreciate your thoughtful attention to the Clinical Documentation query below.

There are 3 CDI queries for you in Epic. Access the drop down options by using F2 when completing the query. If needed, further instructions are at the bottom of this email.