CAHPR CENTER FOR ADVANCING HEALTH POLICY THROUGH RESEARCH

School of Public Health BROWN UNIVERSITY

Supporting State Policymakers to Understand Private Equity in Health Care through Data

An Overview of Private Equity Investments in Physician Practices

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Introduction

The National Academy of State Health Policy (NASHP) partnered with the Center for Advancing Health Policy through Research (CAHPR) at Brown University to provide an analysis of private equity investment in physician practices in four states: North Carolina, Pennsylvania, Texas, and Connecticut.

PE investment in physician practices has expanded rapidly across the United States over the past decade, reflecting a broader shift toward corporatization in health care delivery. PE firms typically acquire physician practices through leveraged buyouts with the goal of increasing profitability and exiting within a relatively short time horizon, often three to seven years.[1,2] While these investments may provide access to capital, administrative support, and operational efficiencies, they have also raised concerns regarding their impact on health care costs, quality of care, physician autonomy, and market competition.[3–7]

Recent empirical evidence suggests that PE acquisitions of physician practices are associated with increases in negotiated commercial prices and changes in care delivery patterns. At the same time, the effects of PE ownership on quality and workforce outcomes remain mixed and context-dependent. [8–10]

Concerns over PE in health care have prompted increased policy scrutiny at both the federal and state levels. In 2024, the Department of Justice (DOJ), Federal Trade Commission (FTC), and Department of Health and Human Services (HHS) launched a joint inquiry into the impact of PE and other corporate ownership in health care. [11]At the state level, policymakers have increasingly expanded their authority to review health care transactions, including those involving provider organizations.[12–15]

Despite growing national and state-level attention, there remains limited state-level evidence on the extent and distribution of PE investment in physician practices. Existing studies have largely focused on national trends or specific specialties, offering limited insight into how PE penetration varies across geographic areas and physician markets. This lack of localized evidence constrains the ability of policymakers to design targeted oversight and regulatory responses.

To address this gap, this report was completed in partnership with NASHP to provide comprehensive analysis on PE penetration in physician practices across four states with distinct geography, politics, state regulatory authority, and health care markets: North Carolina, Pennsylvania, Texas, and Connecticut. Using a novel longitudinal dataset that links proprietary acquisition data with physician-level administrative data from 2015-2023, we examine trends in PE acquisitions, variation across specialties and geographies,

and the share of physicians affiliated with PE-owned practices over time. By providing state- and specialty-specific evidence, this analysis aims to inform ongoing policy discussions on health care consolidation, ownership transparency, and the regulation of corporate investment in physician markets.

Literature Review

PE investment in physician practices has expanded rapidly over the past decade as part of a broader shift toward corporatization in health care delivery. Between 2010 and 2020, PE firms invested approximately $750 billion across the U.S. health care sector, spanning physician practices,[5,16–18] hospitals,[19–21] and post-acute care settings.[22–24] Nationally, PE acquisitions of physician practices accelerated beginning in the mid-2010s and now span a wide range of specialties, including both procedural fields and, more recently, primary care, oncology, and cardiology.[18,25,26]

A defining feature of PE investment is the "platform and add-on" strategy, in which firms acquire a large anchor practice and expand through serial acquisitions of smaller practices to build market share. These transactions are often structured to fall below federal reporting thresholds, enabling consolidation to occur incrementally and largely outside traditional antitrust oversight. As a result, while PE penetration may appear modest in national averages, it can increase rapidly within local markets. For example, state-level evidence from Maryland suggests that PE affiliation can rise from under 2% to more than 15% of physicians within a few years, while remaining highly uneven across geographic areas and specialties.[27]

More broadly, PE investment is occurring within a health system that is already highly corporatized: recent estimates suggest that nearly 80% of physicians are now employed by corporate entities, including health systems, PE firms, and other organizations.[28] This broader shift toward corporate ownership has important implications for market structure, competition, and care delivery, shaping the context in which PE investment occurs.

Impacts on Prices, Spending, and Care Delivery

A growing body of empirical evidence finds that PE acquisition of physician practices is associated with increases in health care prices and spending. Studies have documented increases in commercial prices of approximately 11% following acquisition in several procedural specialties,[3,5] with substantially larger effects observed in some settings—for example, price increases of up to 70% in neonatology.[7] These effects are commonly attributed to increased market power resulting from consolidation, as well as changes in billing practices, coding intensity, and service mix.

PE-affiliated practices may also adopt revenue-maximizing strategies that increase spending, including shifts toward higher-priced drugs[6] and services and greater use of out-of-network billing in specialties like emergency medicine and anesthesiology.[29–31] At the same time, PE investment may provide capital and operational support that enable practices to participate in value-based care models, including investments in health information technology and administrative infrastructure,[32] although these theoretical benefits remain unexamined empirically.

Impacts on Quality of Care and the Clinical Workforce

Evidence on the effects of PE ownership on quality of care remains mixed and varies across care settings. In facility-based settings, PE ownership has been associated with adverse outcomes, including an 11% increase in mortality in nursing homes[33] and a 25% increase in hospital-acquired adverse events in PE-owned hospitals.[20] However, findings are not uniform: some studies[21,34] have documented improvements in specific outcomes, such as acute myocardial infarction mortality in PE-owned hospitals, while showing no significant changes in other measures. Studies specific to physician practices have not found that PE investments have changed quality in primary care or gastroenterology.[35,36]

With respect to the clinical workforce, evidence suggests that PE acquisition is associated with changes in workforce composition and employment dynamics, including increased hiring of advanced practice providers and higher rates of physician entry and exit following acquisition.[8,10] In addition, PE ownership models may influence physician employment conditions through contractual mechanisms such as non-compete clauses,[37,38] which can restrict labor mobility and affect local market dynamics. Physician perspectives on PE are mixed, with some reporting improved administrative support and autonomy, while others expressing concerns related to workload, job stability, and changes in clinical practice. [39]

Taken together, the existing literature suggests that PE investment in physician practices is associated with measurable changes in market structure, pricing, and workforce dynamics, while evidence on quality of care remains mixed and context-dependent. These findings highlight both the potential efficiencies and the risks associated with PE ownership, particularly in markets where consolidation may reduce competition and increase prices.

At the same time, the current evidence base is limited in several important respects. Much of the empirical literature relies on national-level analyses or focuses on specific specialties, offering limited insight into how PE activity varies across local markets and physician specialties. In addition, gaps in ownership transparency and fragmented data

systems continue to constrain the ability of policymakers to monitor consolidation trends and assess their impacts in real time.

These limitations are particularly salient for state policymakers, who are considering policies to oversee health care transactions and address consolidation within their jurisdictions. Without detailed, state-level evidence on the extent and distribution of PE investment, efforts to design targeted oversight and regulatory responses remain constrained.

Data and Methodology

To conduct our analyses, we built a longitudinal dataset from 2015 to 2023, combining several proprietary data sources to describe PE investments in physician practices in North Carolina, Pennsylvania, Texas, and Connecticut. We constructed our dataset in multiple steps. To summarize the process, we 1) identified PE acquisitions of physician practices using data from PitchBook and internet searches, 2) identified physicians in acquired practices and their National Provider Identifiers (NPIs) by linking acquisition data to the Medicare Data on Provider Practice and Specialty (MD-PPAS).

Identifying PE acquisitions

Our primary source of data on PE investments during 2015-2023 is a proprietary list of leveraged buyouts by PE firms in the "Clinics/Outpatient services" sector compiled by PitchBook, a financial database that tracks mergers and acquisitions across industries and has been used by other studies examining PE in health care. Given that there is no single data source that tracks the complete universe of PE investments, a limitation of this data is that it might under-report some PE acquisitions. To account for this, we supplemented Pitchbook data with manual searches.

Identifying physicians at Hospital- and PE-affiliated practices

To identify physicians at acquired practices, we linked acquisitions to data from MD-PPAS available from 2015 to 2022, following the methodology in previous research. The MD-PPAS contains all registered providers in the United States who billed Medicare at least once and are registered in the Provider, Enrollment, Chain, and Ownership System. Because MD-PPAS was available through 2022, deals occurring in 2023 were linked to 2022 MD-PPAS data. By linking acquisition data to MD-PPAS data, we identified all physicians affiliated with PE and non-PE practices from 2015 to 2023.

Hospital-affiliated physicians were identified using the Compendium of U.S. Health Systems data from the Agency for Healthcare Research and Quality (AHRQ). We assigned hospital affiliation status to physicians by linking the AHRQ Compendium of U.S Health System Group Practice Linkage file, which identifies health system affiliation of group practices, with MD-PPAS data.

Estimating PE penetration

For each state, we examined the number of reported PE-affiliated deals (practice locations) in the following ten specialties: dermatology, ophthalmology, gastroenterology, orthopedics, primary care, cardiology, oncology, radiology, physical therapy, and obstetrics/gynecology.

In addition, we estimated PE penetration as the share of physicians (MDs and DOs) that were in PE-affiliated practices. We estimated PE penetration by specialty and year. The denominator represents all physicians (MDs and DOs) in the evaluated specialties who billed Medicare. Because MD-PPAS data does not include reliable information on certain specialties (e.g., obstetrics/gynecology) or non-physician providers (physical therapists), we do not calculate PE penetration for these specialties.

A list of physician subspecialties evaluated under each specialty is listed below.

Specialty	Physician Subspecialty Code	Name of Physician Subspecialty
Dermatology	7	Dermatology
Ophthalmology	18	Ophthalmology
Gastroenterology	10	Gastroenterology
Orthopedics	20	Orthopedic Surgery
Primary care	1	Family Practice
	8	General Practice
	11	Internal Medicine
	38	Geriatric Medicine
	84	Preventive Medicine
Cardiology	6	Cardiology
	21	Clinical Cardiac Electrophysiology
	78	Cardiac Surgery
	C3	Interventional Cardiology
Oncology	83	Hematology-Oncology

	90	Medical Oncology
	91	Surgical Oncology
	92	Radiation Oncology
	98	Gynecological Oncology
Radiology	30	Diagnostic Radiology
	94	Interventional Radiology

Limitations

We define PE affiliation based on our analysis of proprietary data sources. This definition includes leveraged buyouts that involve a PE firm. This definition does not include related for-profit entities that are primarily financed by venture capital, affiliated with payers, acquired by health systems, or purchased by other for-profit entities in health care.

In addition, there is no systematic data available to identify PE exits. Thus, we are unable to determine when PE-affiliated firms change ownership resulting from PE exit (to become non-PE-affiliated). As a result, we consider an entity to be PE-affiliated if it was ever PE-affiliated. This approach is consistent with existing research that shows changes to practice patterns after PE acquisition persists after PE exit.

Relatedly, given the lack of systematic disclosure requirements for PE, we do not have data to differentiate between majority vs minority investment stake, board composition, use of management services organizations, or other factors that might drive heterogeneity in investment strategies across PE firms. Relatedly, given the lack of systematic data on ownership structures, we are unable to determine the number of unique parent entities that are driving PE penetration in local markets.

Important data limitations include a lack of available data on certain categories of health care services that have witnessed increased PE penetration in recent years. For example, standardized data on hospital-based specialties that generally rely on staffing firms (e.g., emergency medicine, anesthesiology) are unavailable. We also do not include data on acquisitions that are not represented in the Medicare data, including dentistry, pediatrics, mental health, and substance use disorder treatment facilities. In addition, we do not include data on advanced practice providers (e.g., nurse practitioners or physician assistants) or multispecialty practices because we do not have specialty-level information for these providers. Relatedly, while we include data on acquisitions of physical therapy and obstetrics/gynecology practices, we do not have reliable data on clinicians practicing at these locations. Thus, we are unable to estimate PE penetration (share of clinicians in PE-affiliated practices) for these specialties.

Finally, PE firms have invested in other health care settings beyond the scope of this analysis, including hospitals, long-term care, and behavioral health settings. Given these limitations, our estimates of PE penetration are likely to underestimate the true extent of PE penetration in a given state.

Key Findings

Across all states, PE investments in physician practices have accelerated since 2015. In North Carolina and Pennsylvania, PE investments in physician practices reached a peak around 2021. In contrast, investments continued to increase in Texas throughout the entire period 2015-2023, and accelerate starting in 2021 in Connecticut. Across all evaluated states, PE firms have invested in a wide range of specialties in each state (**Exhibit 1**).

Exhibit 2 highlights the geographic variation in PE penetration across all evaluated specialties in each state (see **Appendix 1** for additional detail). Across all states, physician practices with PE investments were concentrated in specific regions of the state. For example, the counties with the largest number of PE-acquired physician practices were Wake County and Buncombe County in North Carolina, Montgomery County and Philadelphia County in Pennsylvania, Dallas County and Harris County in Texas, and Hartford County and Fairfield County in Connecticut.

Exhibit 3 shows that the average share of physicians in PE-acquired practices between 2015 and 2023. Across all states, PE penetration increased between 2015 and 2023 with some variation within evaluated specialties (**Appendix 2**). As of 2023, the share of PE-affiliated physicians was 3% in North Carolina, 3% in Pennsylvania, 10% in Texas, and 6% in Connecticut.

PE investments in physician practices occur against the backdrop of other types of corporate employment of physicians. **Exhibit 4** summarizes the proportion of physicians in each state that are affiliated with PE firms as well as hospitals and health systems. As of 2023, 3% of physicians in North Carolina were PE-affiliated and 58% were hospital-affiliated. The share of PE- and hospital-affiliated physicians were 3% and 70% in Pennsylvania, 10% and 40% in Texas, and 6% and 60% in Connecticut. In general, specialties with a greater share of hospital-affiliated physicians (e.g., Oncology, Cardiology) had a lower share of PE-affiliated physicians, and specialties with a smaller share of hospital-affiliated physicians (e.g., dermatology) had a higher share of PE-affiliated physicians. Certain specialties are characterized by both larger shares of hospital- and PE-affiliation (e.g., gastroenterology, radiology).

Discussion

Many states have been seeking policy options to address consolidation and corporatization of health care entities. In response to requests from states, one of the

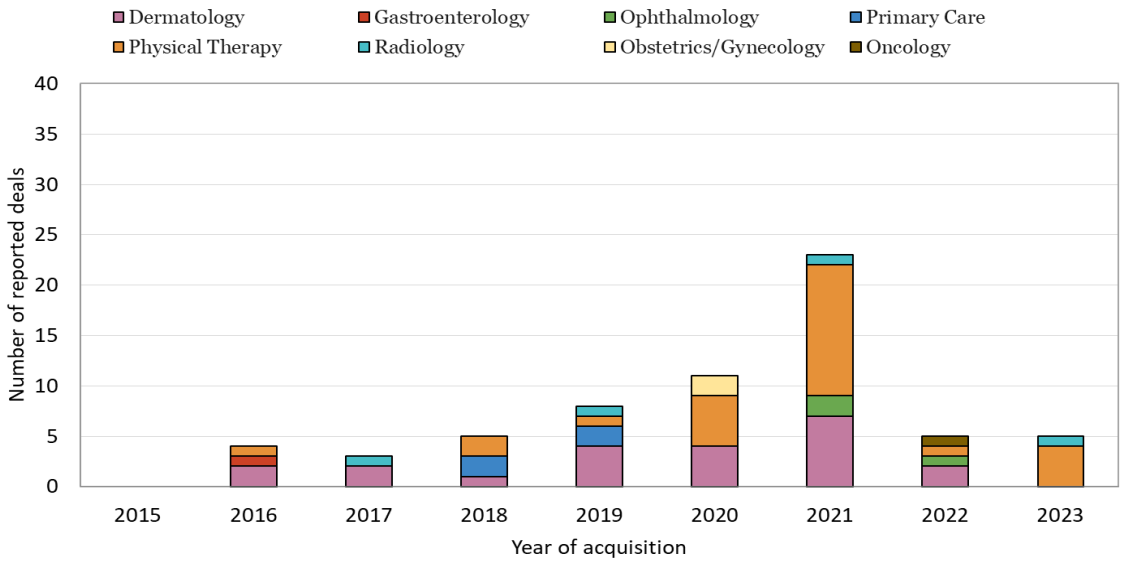
contributors to this Report (Erin C. Fuse Brown) worked with NASHP to develop model legislation titled, "Comprehensive Consolidation Model Addressing Transaction Oversight, Corporate Practice of Medicine and Transparency." The model specifies three state policies to address health care consolidation, corporatization, and health care closures: (A) Enhanced oversight of material health care transactions; (B) Strengthening protections for physicians and the clinical workforce; and (C) Transparency of ownership and control relationships.

Notably, these policy options are intentionally designed to apply to a wide range of health care entities, transactions, and ownership and control entities. The effects of consolidation or corporate control of medical practices are not unique to private equity. Thus, the policies are designed to apply to all material change transactions involving health care entities and medical practices, regardless of the identity of the transacting parties, including health systems, payers, private equity, publicly traded companies, retailers, or others. While these three policies are mutually reinforcing, they also can be pursued on an *a la carte* basis and tailored to the specific characteristics of the state. States can determine which agencies to vest authority, including sharing authority between different entities.

State policymakers are actively seeking ways to identify and address emerging forces that are shaping health care markets, including acquisitions of physician practices by private equity firms, payers, retail companies, and health systems. In addition, states seek to fill the gaps in federal and state antitrust authority over emerging forms of health care consolidation that might be too small to be reported or reviewed, but nonetheless contribute to ongoing health care consolidation and threaten the affordability, access, and sustainability of the clinical workforce. States are also working to understand the opaque and increasingly complex ownership and control relationships within the health care market and to strengthen protections for the professional autonomy of the clinical workforce. Policy efforts can aim to create a competitive market environment that balances the need for capital investment by medical practices with appropriate guardrails to protect patients and the clinical workforce against the pitfalls of consolidation and corporatization in health care.

EXHIBITS

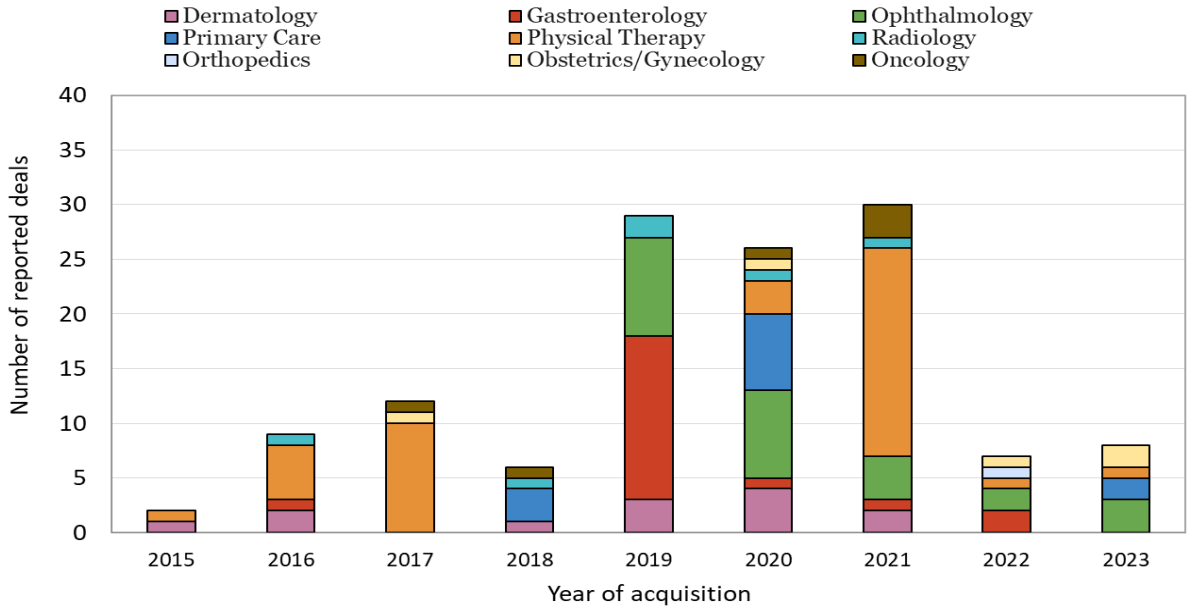
Exhibit 1. Number of PE acquisitions of physician practices, by specialty (2015-2023)
Panel A: North Carolina (n=67)



Notes: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). Each bar reflects the total number of deals reported in each year. There were no reported deals in cardiology and orthopedics.

North Carolina (Total no. of deals, 2015-2023: 67)	
Specialty	**Count of PE Acquisitions**
Dermatology	22
Gastroenterology	1
Ophthalmology	3
Cardiology	0
Primary Care	7
Orthopedics	0
Physical Therapy	27
Oncology	1
Radiology	4
Obstetrics/Gynecology	2

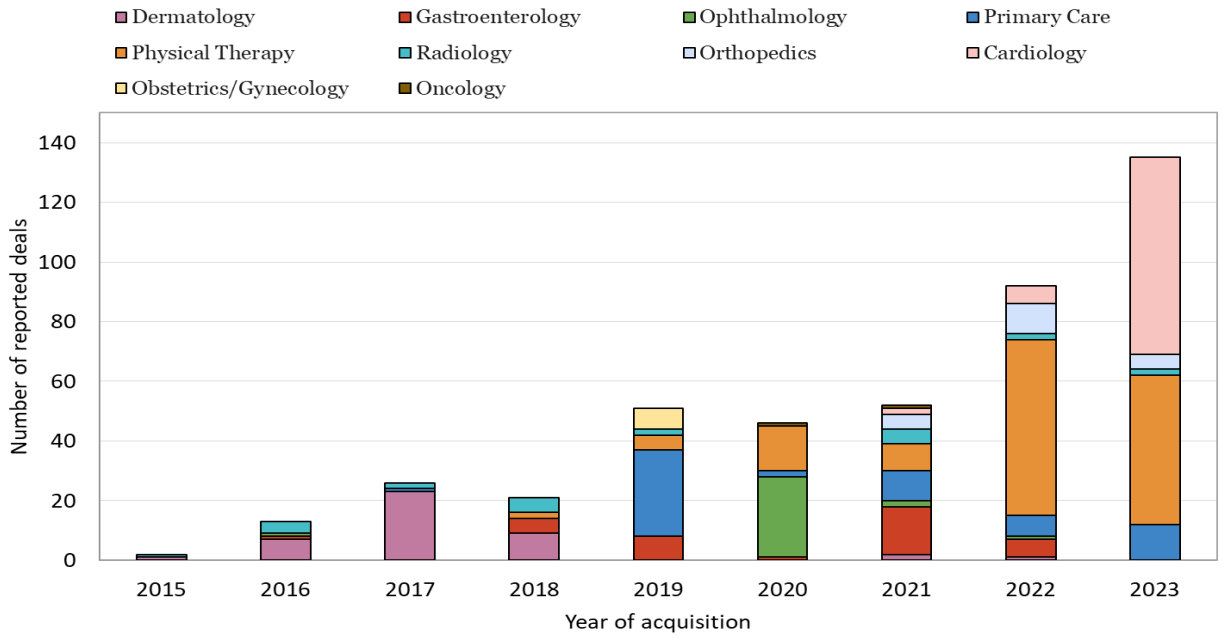
Panel B: Pennsylvania (n=129)



Notes: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites)**.** Each bar reflects the total number of deals reported in each year. There were no reported deals in cardiology.

Pennsylvania (Total no. of deals, 2015-2023: 129)	
Specialty	**Count of PE Acquisitions**
Dermatology	13
Gastroenterology	20
Ophthalmology	26
Cardiology	0
Primary Care	12
Orthopedics	1
Oncology	6
Physical Therapy	40
Radiology	6
Obstetrics/Gynecology	5

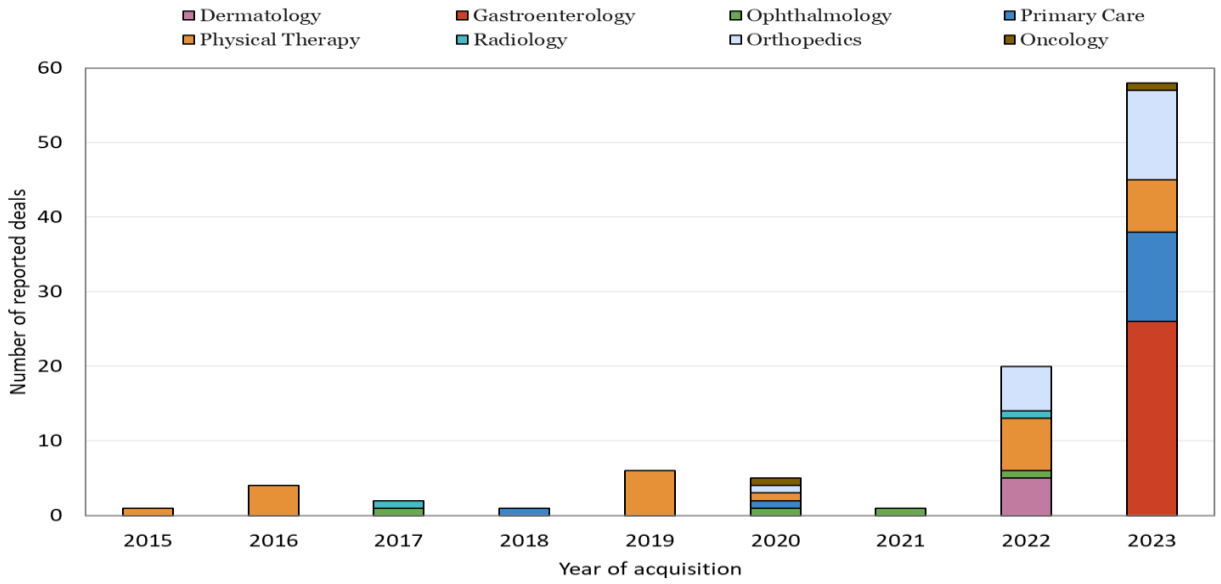
Panel C: Texas (n=438)



Notes: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). Each bar reflects the total number of deals reported in each year.

Texas (Total no. of deals, 2015-2023: 438)	
Specialty	**Count of PE Acquisitions**
Dermatology	43
Gastroenterology	37
Ophthalmology	31
Cardiology	74
Primary Care	61
Orthopedics	20
Oncology	2
Physical Therapy	140
Radiology	23
Obstetrics/Gynecology	7

Panel D: Connecticut (n= 98)

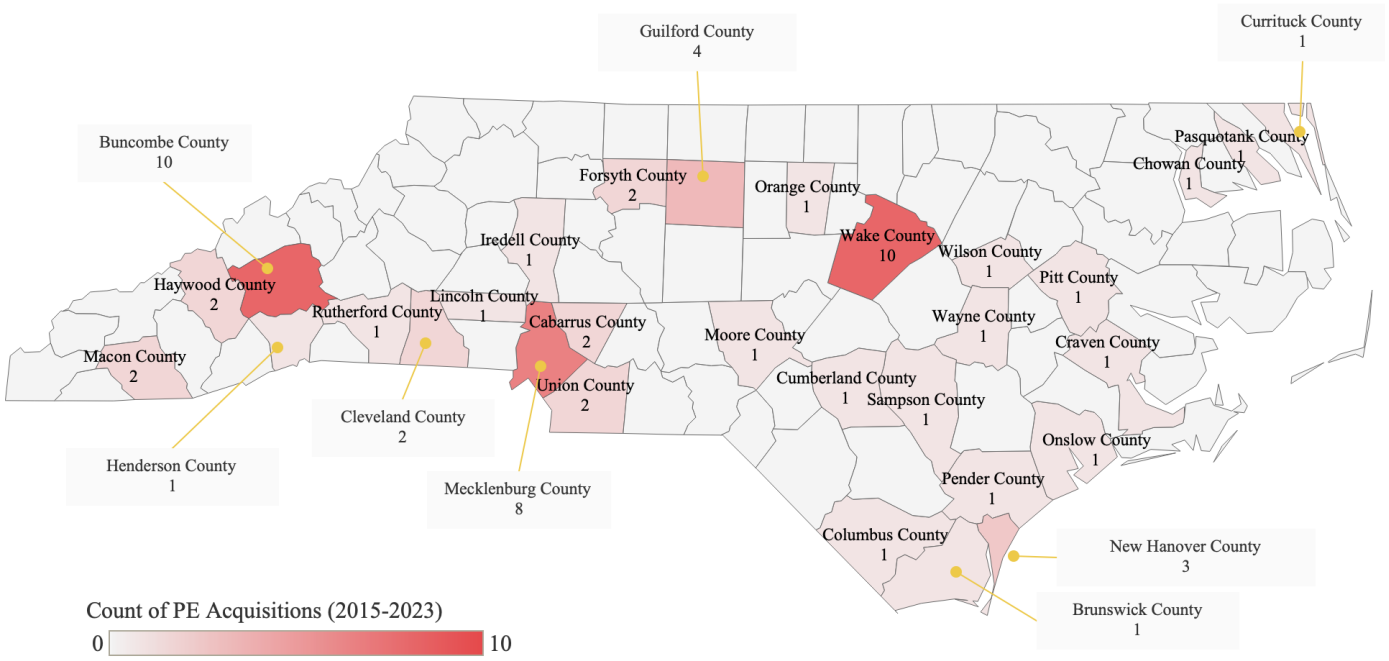


Notes: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). There were no reported deals in cardiology and obstetrics/gynecology. Each bar reflects the total number of deals reported in each year.

Connecticut (Total no. of deals, 2015-2023: 98)	
Specialty	**Count of PE Acquisitions**
Dermatology	5
Gastroenterology	26
Ophthalmology	4
Cardiology	0
Primary Care	13
Orthopedics	19
Physical Therapy	26
Oncology	2
Radiology	3
Obstetrics/Gynecology	0

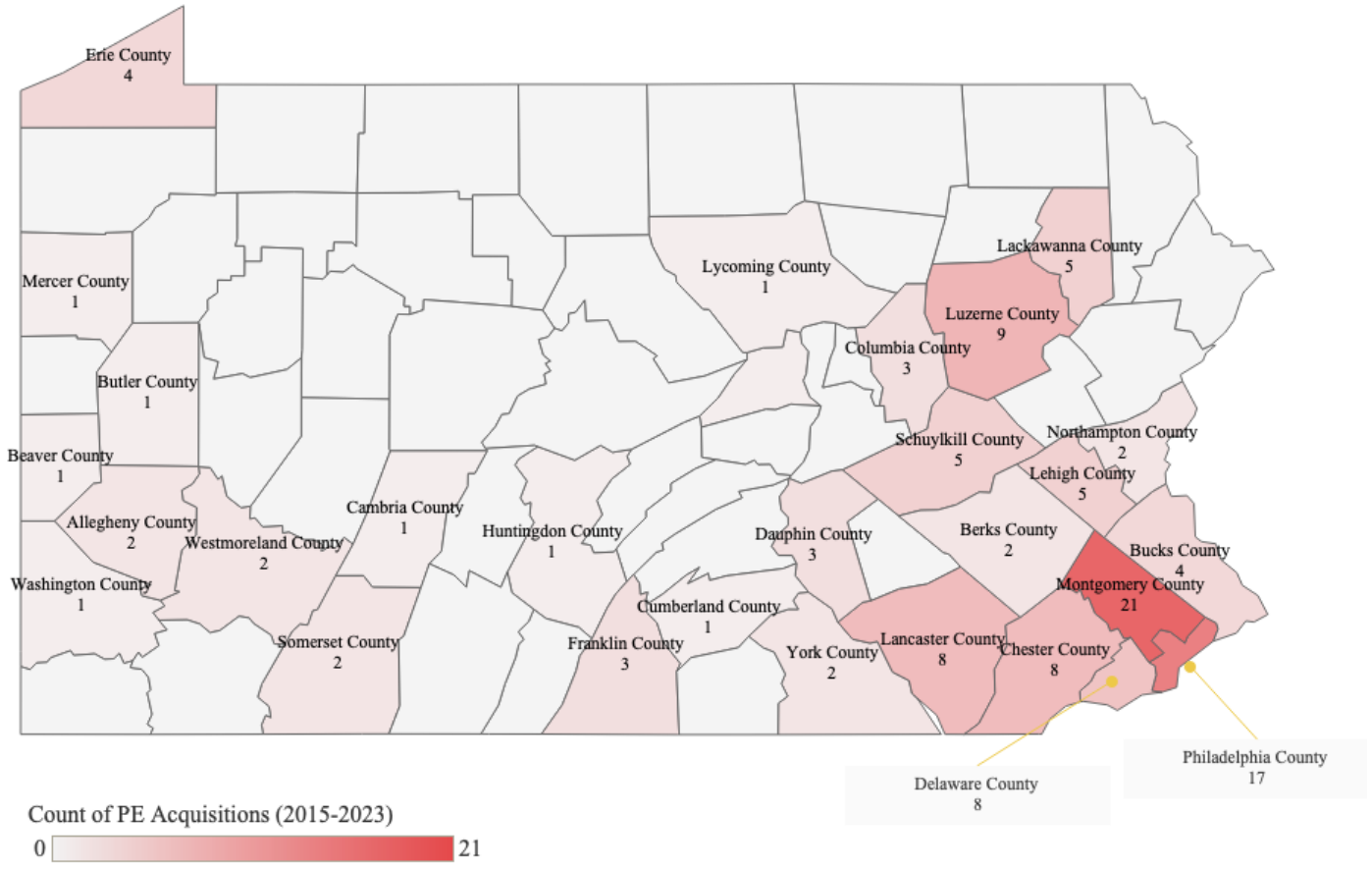
Exhibit 2. Geographic variation in reported PE investments in physician practices

Panel A: North Carolina



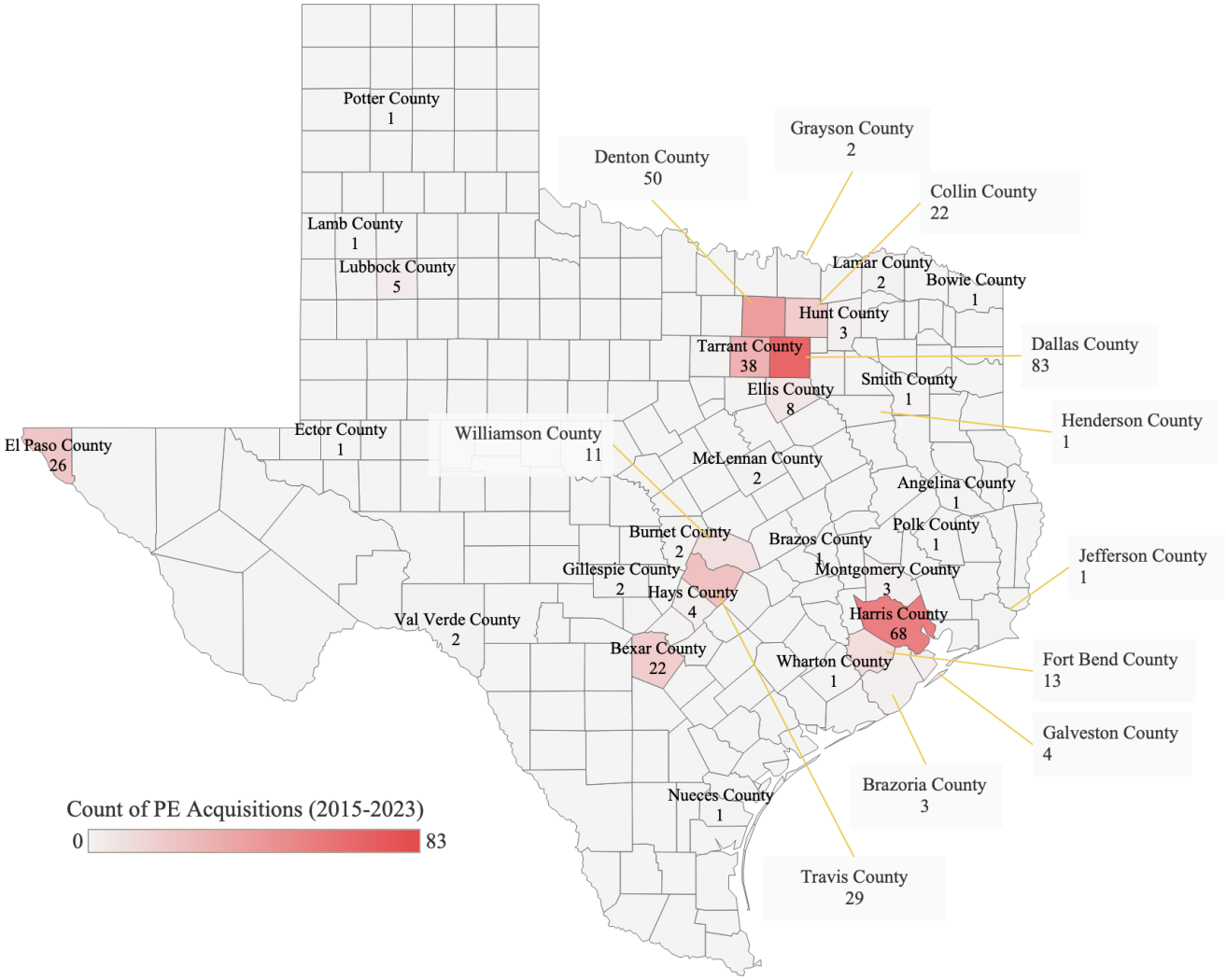
Source: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). The graph shows the number of reported practice locations affiliated with PE firms as of 2023. County labels are shown for counties with at least one acquired location. Data on county-level PE penetration for oncology was unavailable and has not been included in the map.

Panel B: Pennsylvania



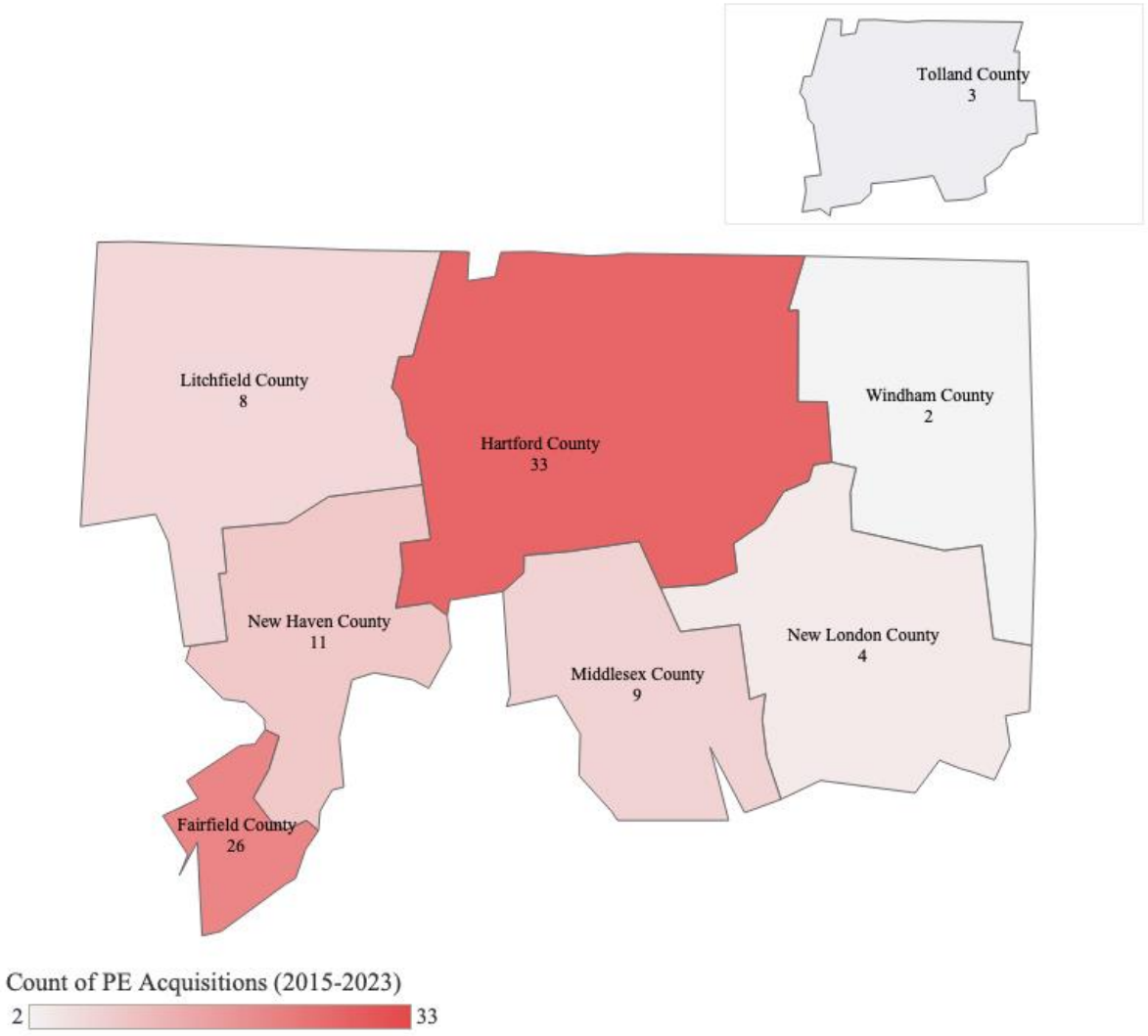
Source: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). The graph shows the number of reported practice locations affiliated with PE firms as of 2023. County labels are shown for counties with at least one acquired location. Data on county-level PE penetration for oncology was unavailable and has not been included in the map.

Panel C: Texas



Source: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). The graph shows the number of reported practice locations affiliated with PE firms as of 2023. County labels are shown for counties with at least one acquired location. Data on county-level PE penetration for oncology was unavailable and has not been included in the map.

Panel D: Connecticut

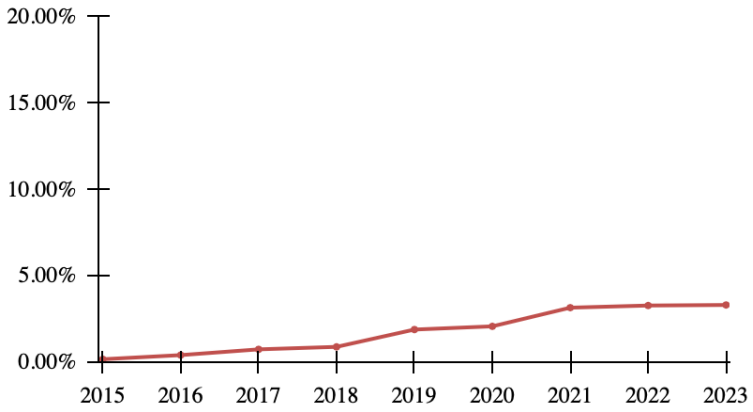


Source: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). The graph shows the number of reported practice locations affiliated with PE firms as of 2023. County labels are shown for counties with at least one acquired location. Data on county-level PE penetration for oncology was unavailable and has not been included in the map.

Note: Tolland County overlaps with Hartford County in the geographic reference file and cannot be rendered separately without custom shapefiles. We therefore display Tolland County in a separate inset.

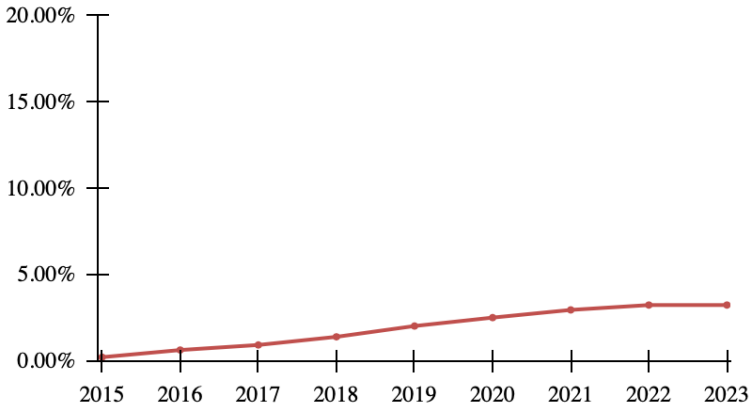
Exhibit 3. Share of Physicians in Private Equity–Affiliated Practices, 2015-2023

Panel A: North Carolina



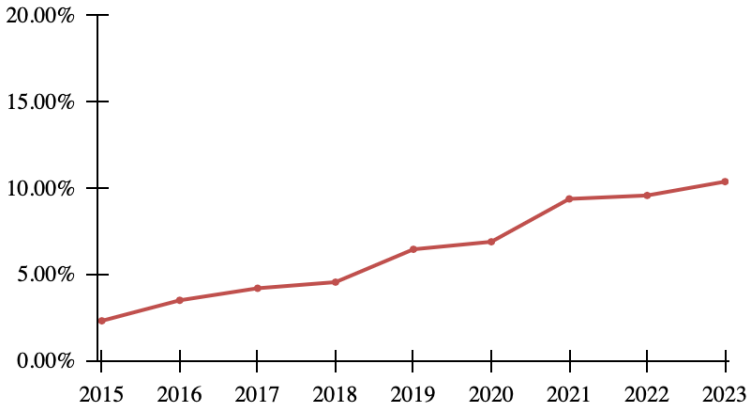
Note: Figure displays annual private-equity (PE) penetration in North Carolina aggregated across evaluated specialties (Cardiology, Dermatology, Gastroenterology, Oncology, Ophthalmology, Orthopedics, Primary Care, and Radiology). For each year, PE penetration is calculated as the number of physicians in PE-affiliated practices divided by the total number of actively billing physicians in the same specialties and state, multiplied by 100. PE affiliation is identified using the 2015–2022 Medicare Data on Provider Practice and Specialty (MD-PPAS). Because MD-PPAS data were available only through 2022, acquisitions occurring in 2023 were linked to 2022 MD-PPAS.

Panel B: Pennsylvania



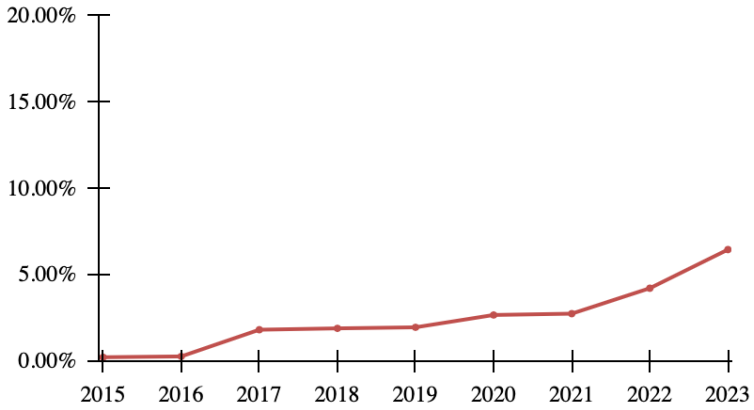
Note: Figure displays annual private-equity (PE) penetration in Pennsylvania aggregated across evaluated specialties (Cardiology, Dermatology, Gastroenterology, Oncology, Ophthalmology, Orthopedics, Primary Care, and Radiology). For each year, PE penetration is calculated as the number of physicians in PE-affiliated practices divided by the total number of actively billing physicians in the same specialties and state, multiplied by 100. PE affiliation is identified using the 2015–2022 Medicare Data on Provider Practice and Specialty (MD-PPAS). Because MD-PPAS data were available only through 2022, acquisitions occurring in 2023 were linked to 2022 MD-PPAS.

Panel C: Texas



Note: Figure displays annual private-equity (PE) penetration in Texas aggregated across evaluated specialties (Cardiology, Dermatology, Gastroenterology, Oncology, Ophthalmology, Orthopedics, Primary Care, and Radiology). For each year, PE penetration is calculated as the number of physicians in PE-affiliated practices divided by the total number of actively billing physicians in the same specialties and state, multiplied by 100. PE affiliation is identified using the 2015–2022 Medicare Data on Provider Practice and Specialty (MD-PPAS). Because MD-PPAS data were available only through 2022, acquisitions occurring in 2023 were linked to 2022 MD-PPAS.

Panel D: Connecticut



Note: Figure displays annual private-equity (PE) penetration in Connecticut aggregated across evaluated specialties (Cardiology, Dermatology, Gastroenterology, Oncology, Ophthalmology, Orthopedics, Primary Care, and Radiology). For each year, PE penetration is calculated as the number of physicians in PE-affiliated practices divided by the total number of actively billing physicians in the same specialties and state, multiplied by 100. PE affiliation is identified using the 2015–2022 Medicare Data on Provider Practice and Specialty (MD-PPAS). Because MD-PPAS data were available only through 2022, acquisitions occurring in 2023 were linked to 2022 MD-PPAS.

Exhibit 4. Share of Hospital- and Private Equity-Affiliated Physicians, 2023

Panel A: North Carolina

Specialty	PE-affiliated physicians	Hospital-affiliated physicians	Statewide total physicians	PE Penetration (%)	Hospital Penetration (%)
Cardiology	0	723	841	0.00%	85.97%
Dermatology	32	96	389	8.23%	24.68%
Gastroenterology	2	262	488	0.41%	53.69%
Oncology	5	595	699	0.72%	85.12%
Ophthalmology	40	161	532	7.52%	30.26%
Orthopedics	0	384	746	0.00%	51.47%
Primary care	3	2,935	4,857	0.06%	60.43%
Radiology	232	427	1,023	22.68%	41.74%
All evaluated specialties	**314**	**5,583**	**9,575**	**3.28%**	**58.31%**

Panel B: Pennsylvania

Specialty	PE-affiliated physicians	Hospital-affiliated physicians	Statewide total physicians	PE Penetration (%)	Hospital Penetration (%)
Cardiology	0	1,250	1,467	0.00%	85.21%
Dermatology	53	226	525	10.10%	43.05%
Gastroenterology	73	522	763	9.57%	68.41%
Oncology	62	894	1,006	6.16%	88.87%
Ophthalmology	68	182	819	8.30%	22.22%
Orthopedics	48	583	975	4.92%	59.79%
Primary care	40	5,194	7,495	0.53%	69.30%
Radiology	131	1,469	1,713	7.65%	85.76%
All evaluated Specialties	**475**	**10,320**	**14,763**	**3.22%**	**69.90%**

Panel C: Texas

Specialty	PE-affiliated physicians	Hospital-affiliated physicians	Statewide total physicians	PE Penetration (%)	Hospital Penetration (%)
Cardiology	121	1,171	2,063	5.87%	56.76%
Dermatology	197	143	946	20.82%	15.12%
Gastroenterology	240	417	1,072	22.39%	38.90%
Oncology	504	723	1,509	33.40%	47.91%
Ophthalmology	72	201	1,220	5.90%	16.48%
Orthopedics	50	646	1,636	3.06%	39.49%
Primary care	493	4,496	11,888	4.15%	37.82%
Radiology	695	1,282	2,535	27.42%	50.57%
All evaluated specialties	**2,372**	**9,079**	**22,869**	**10.37%**	**39.70%**

Panel D: Connecticut

Specialty	PE-affiliated physicians	Hospital-affiliated physicians	Statewide count of physicians	PE Penetration (%)	Hospital Penetration (%)
Cardiology	0	428	466	0.00%	91.85%
Dermatology	5	49	180	2.78%	27.22%
Gastroenterology	74	124	259	28.57%	47.88%
Oncology	6	275	306	1.96%	89.87%
Ophthalmology	25	35	263	9.51%	13.31%
Orthopedics	57	139	348	16.38%	39.94%
Primary care	1	1,241	1,909	0.05%	65.01%
Radiology	102	222	466	21.89%	47.64%
All evaluated specialties	**270**	**2,513**	**4,197**	**6.43%**	**59.88%**

Note: Data are derived from the 2022 Medicare Data on Provider Practice and Specialty (MD-PPAS). Because MD-PPAS was available through 2022, deals occurring in 2023 were linked to 2022 MD-PPAS data. "PE-affiliated physicians" refers to physicians (MDs/DOs) in PE-affiliated practices between 2015-2023. The "state-wide total physicians" category represents all actively billing physicians within each specialty and state according to 2022 MD-PPAS records. Hospital-affiliated physicians were identified by linking the AHRQ Compendium Group Practice Linkage File to the MD-PPAS data.

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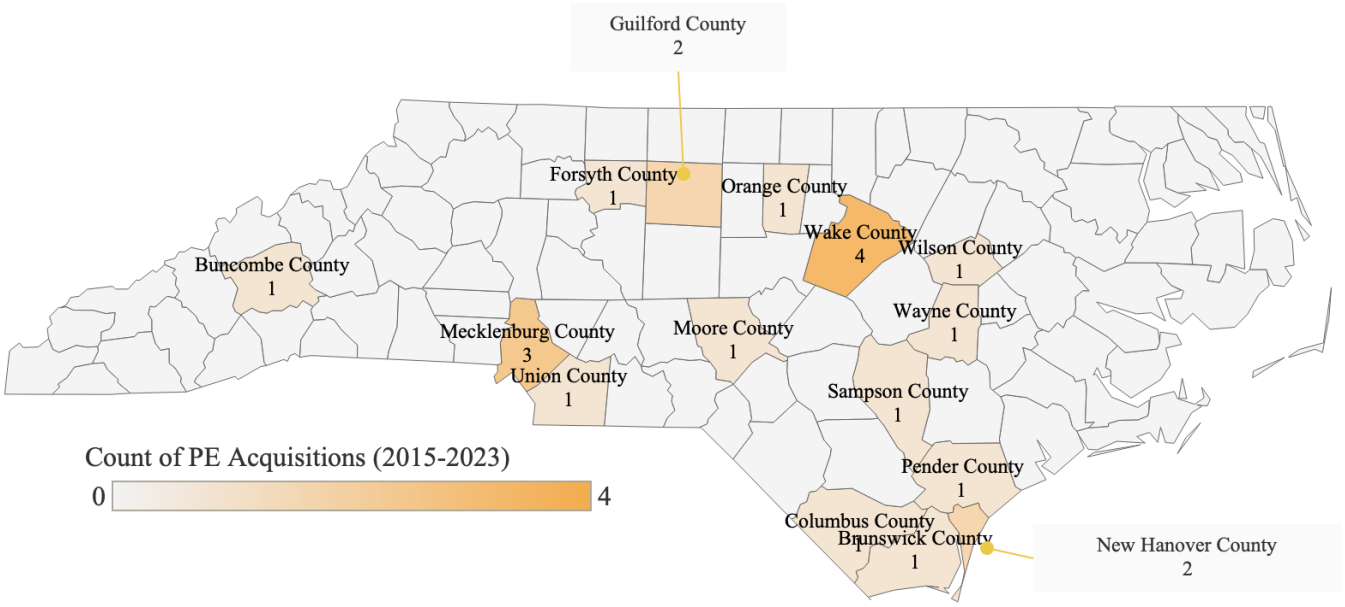
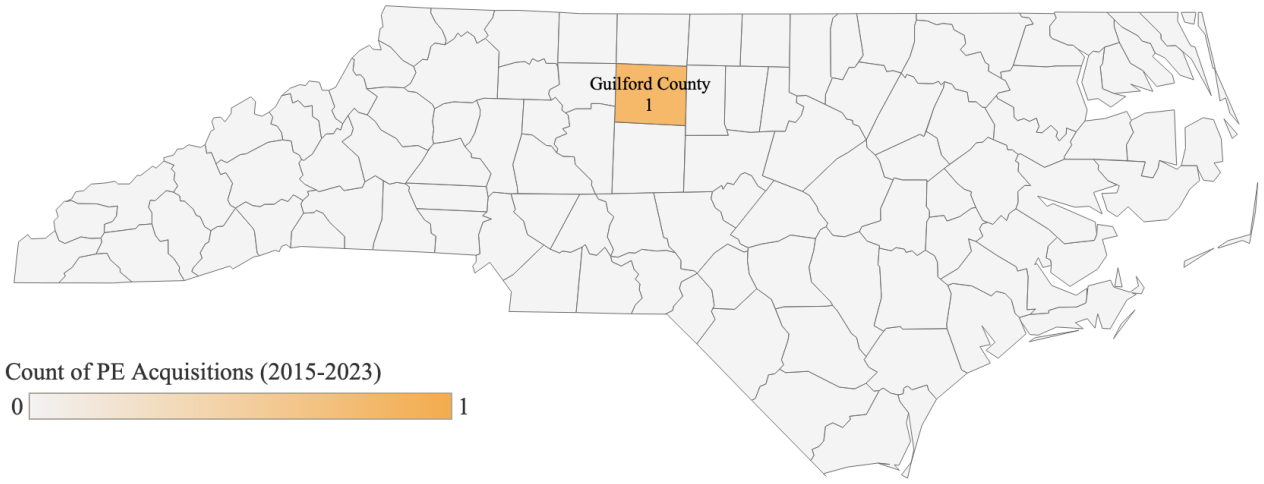
Appendix 1. Geographic variation in reported PE investments in physician practices by physician specialty

Panel A: North Carolina

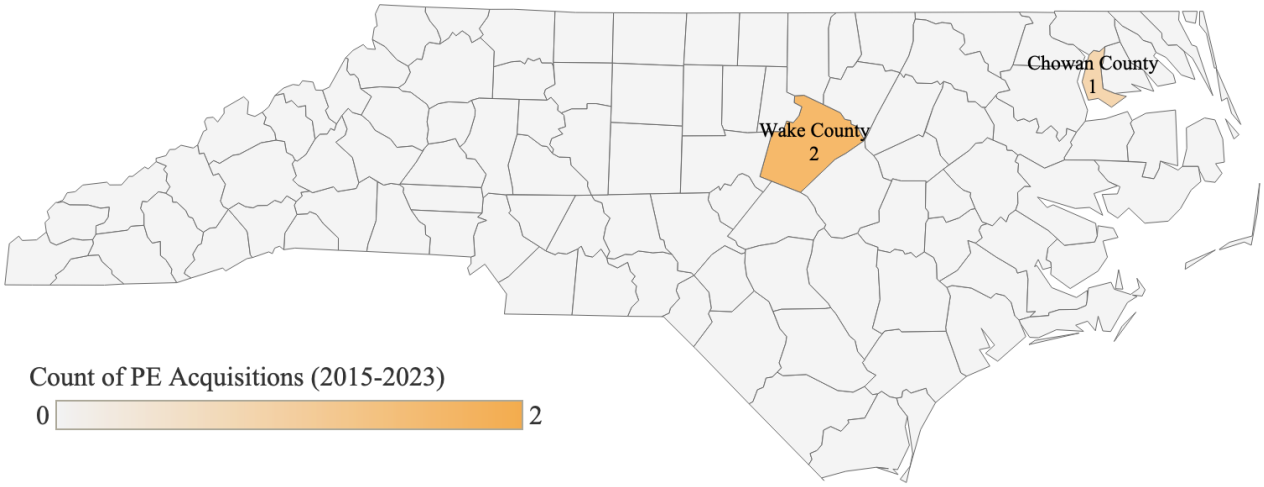
Dermatology (n=22)



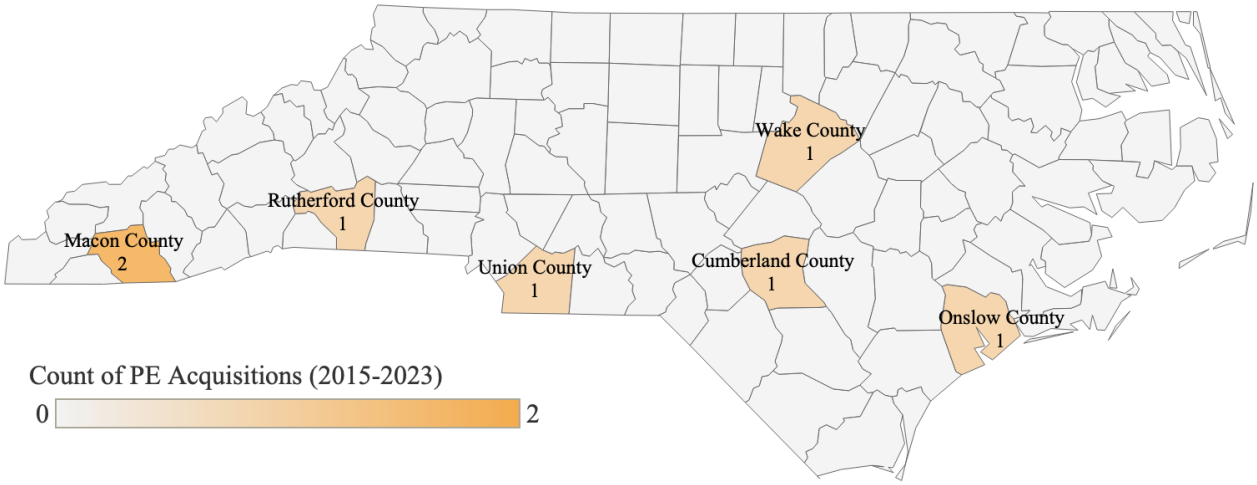
Gastroenterology (n=1)



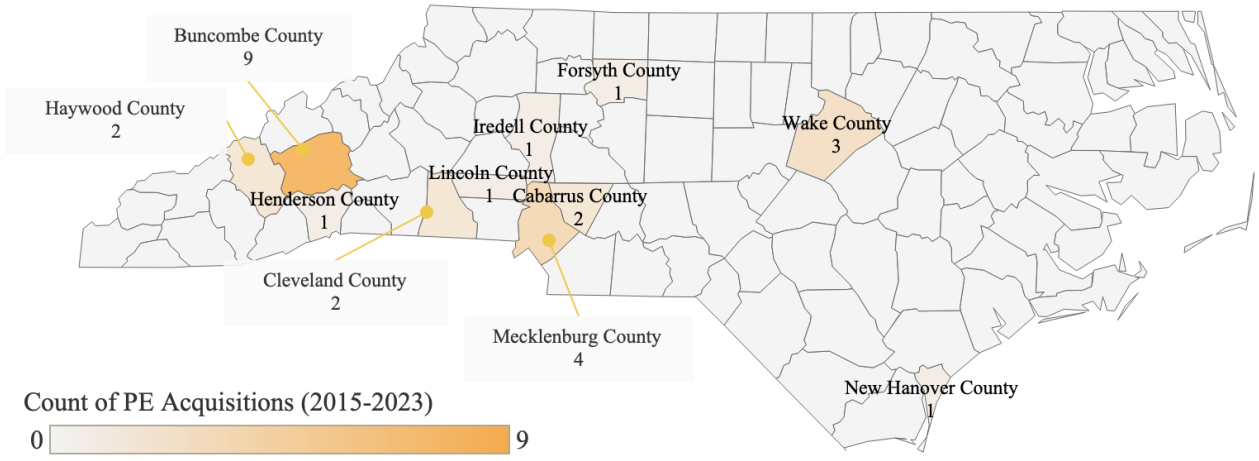
Ophthalmology (n=3)



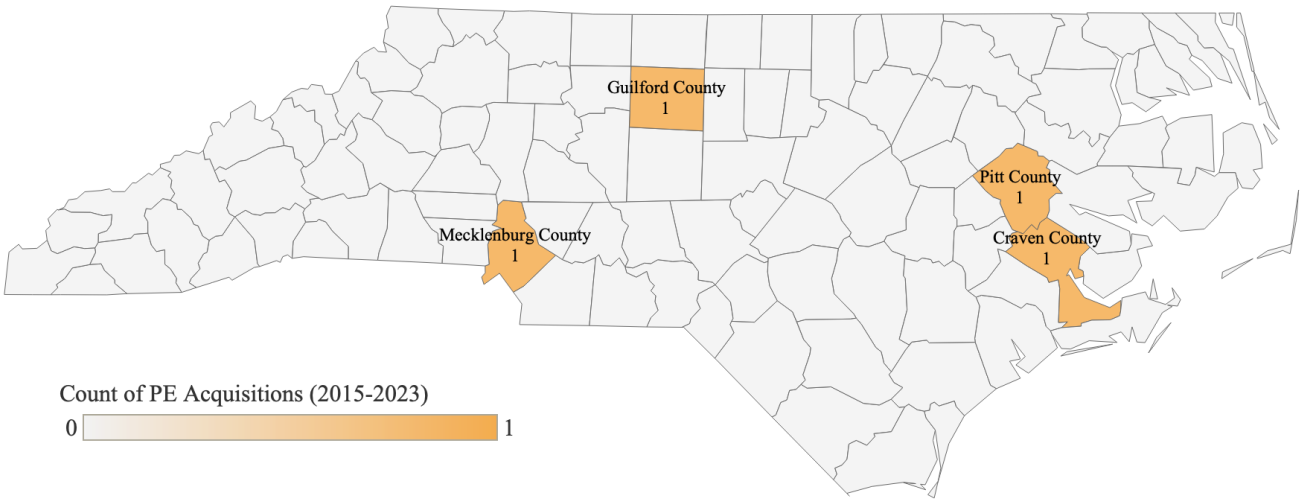
Primary Care (n=7)



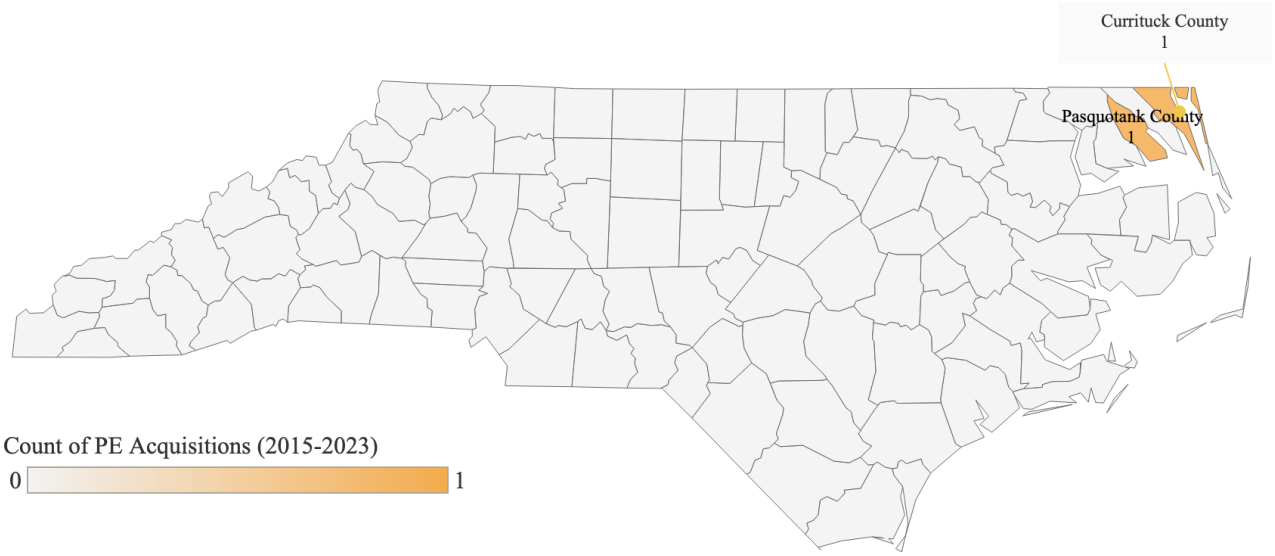
Physical Therapy (n=27)


Buncombe County
9
Haywood County
2
Henderson County
1
Cleveland County
2
Lincoln County
1
Iredell County
1
Forsyth County
1
Cabarrus County
2
Mecklenburg County
4
Wake County
3
New Hanover County
1
Count of PE Acquisitions (2015-2023)
0
9

Radiology (n=4)



Obstetrics/Gynecology (n=2)

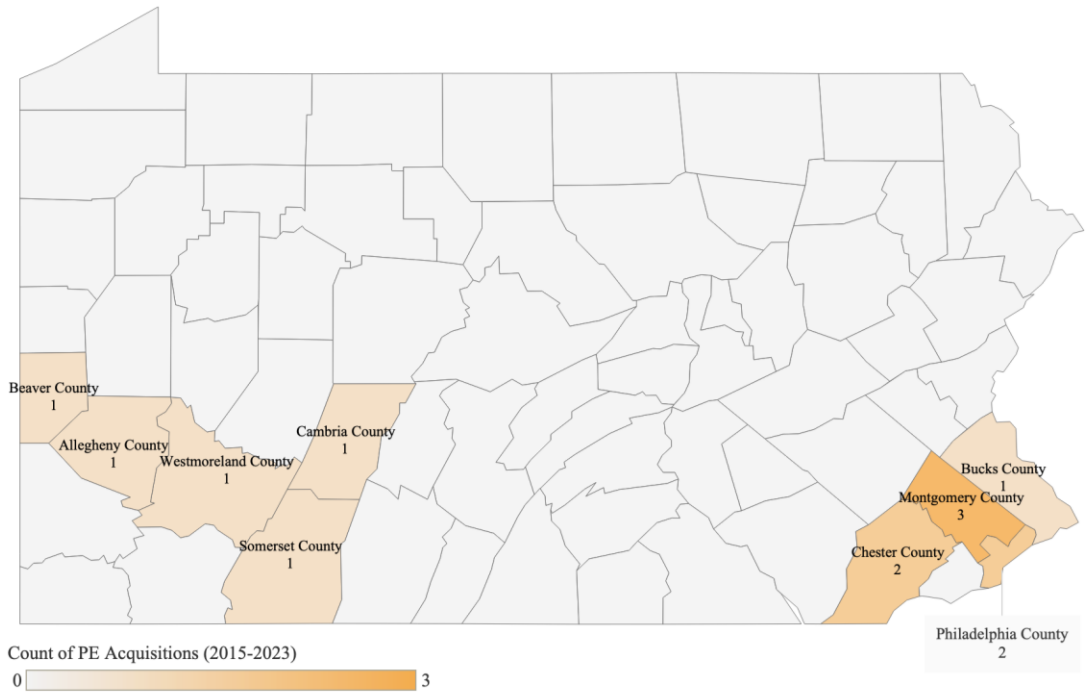


Source: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). The graph shows county-level penetration for observations with available ZIP code information. County labels are shown for counties with the number of PE acquisitions greater or equal to n=1.

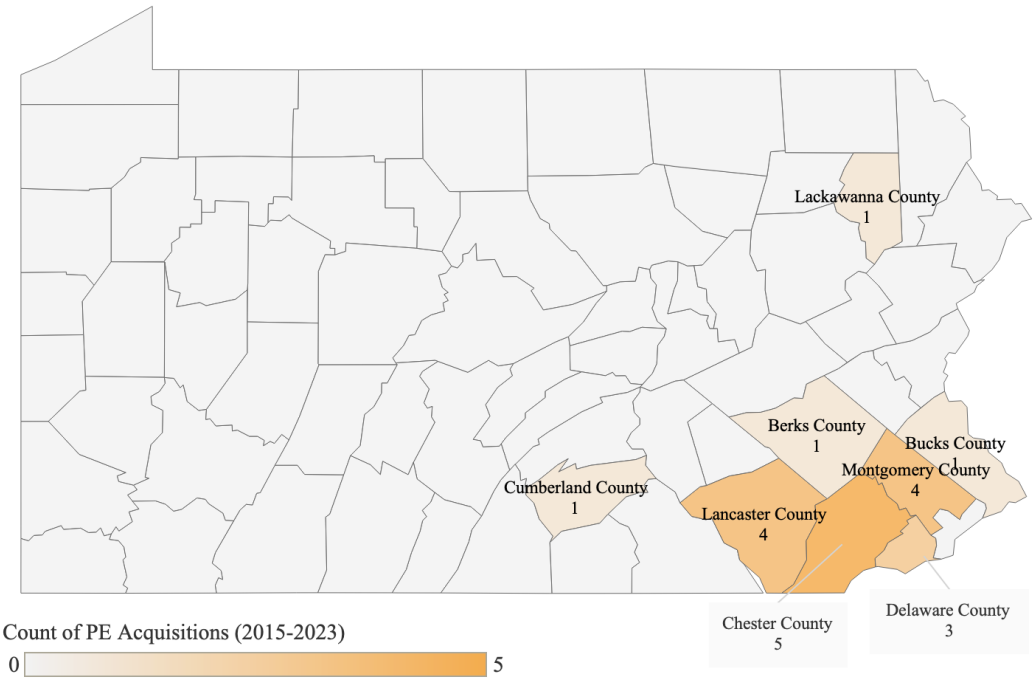
Note: There were no reported deals in cardiology and orthopedics. Data on county-level PE penetration for oncology was unavailable and has not been included in the specialty specific maps.

Panel B: Pennsylvania

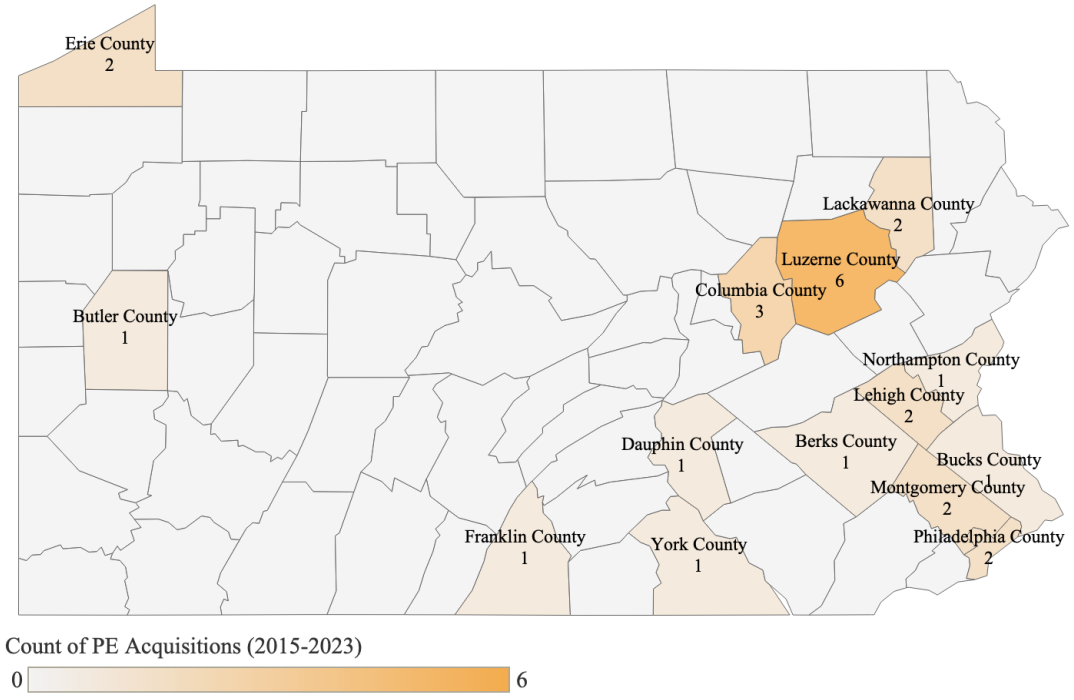
Dermatology (n=13)



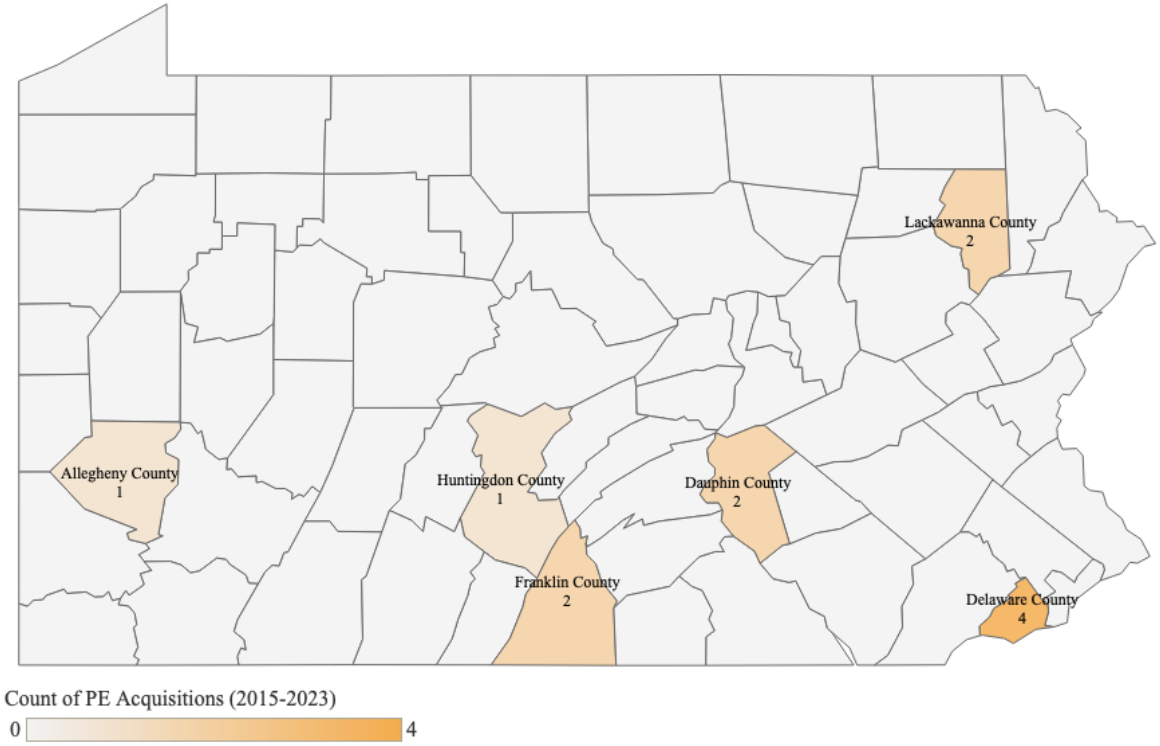
Gastroenterology (n=20)



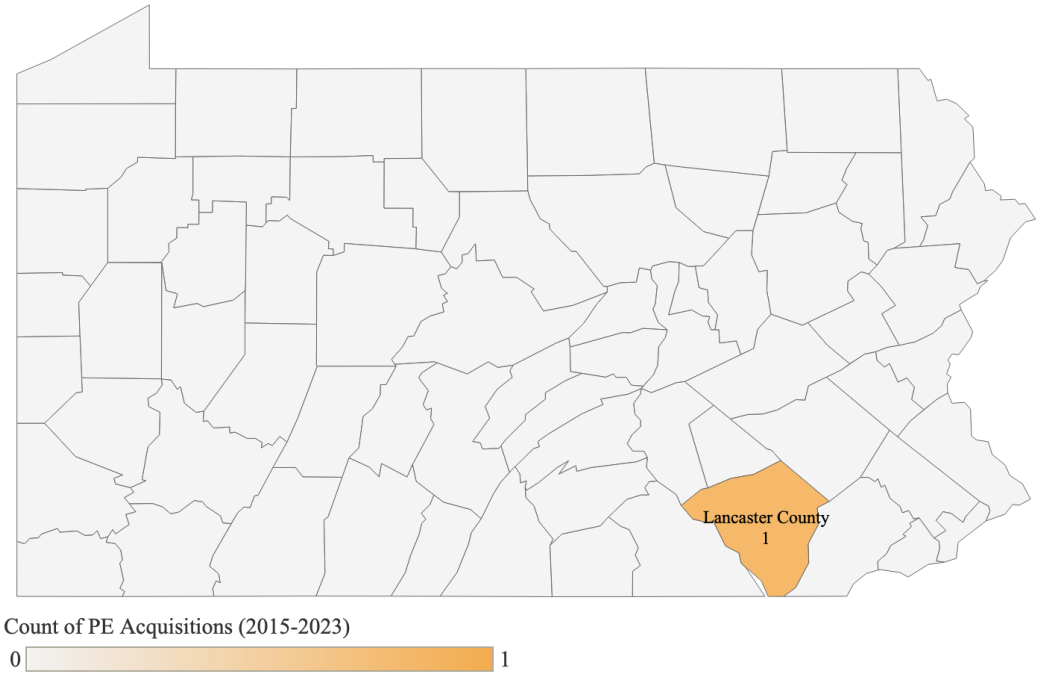
Ophthalmology (n=26)



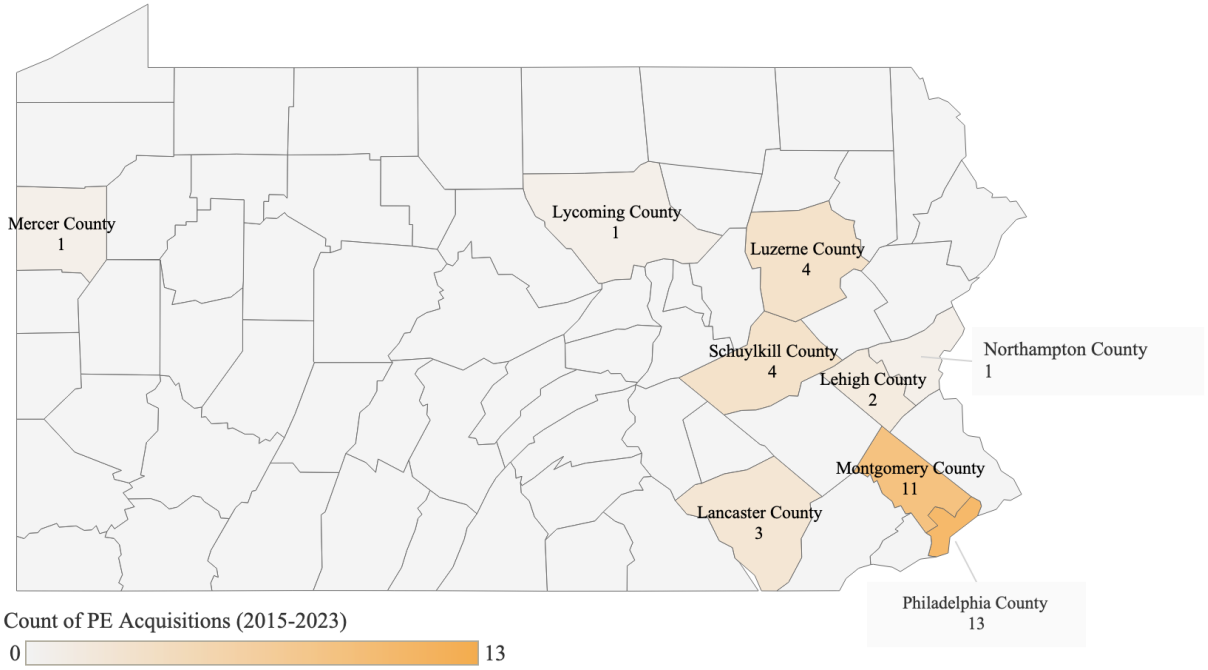
Primary Care (n=12)



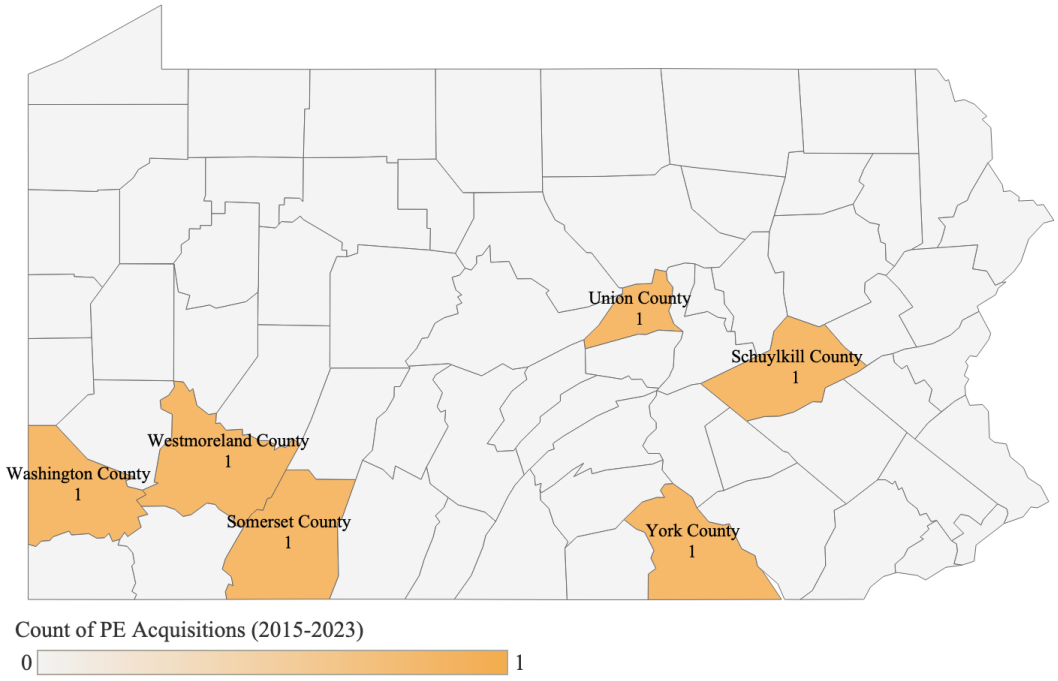
Orthopedics (n=1)



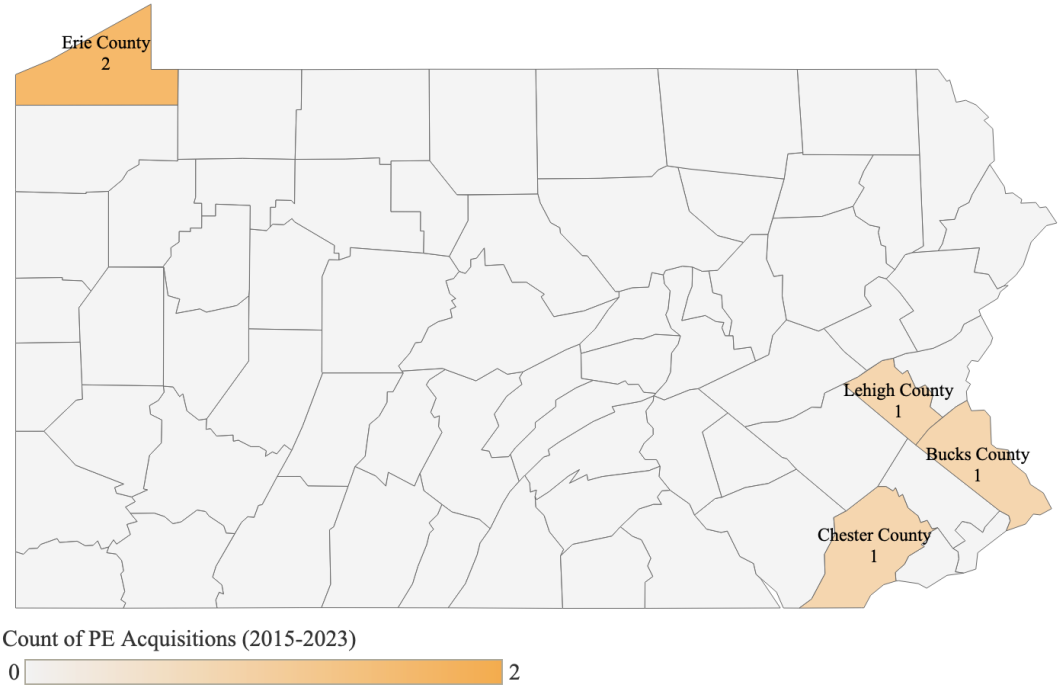
Physical Therapy (n=40)



Radiology (n=6)



Obstetrics/Gynecology (n=5)



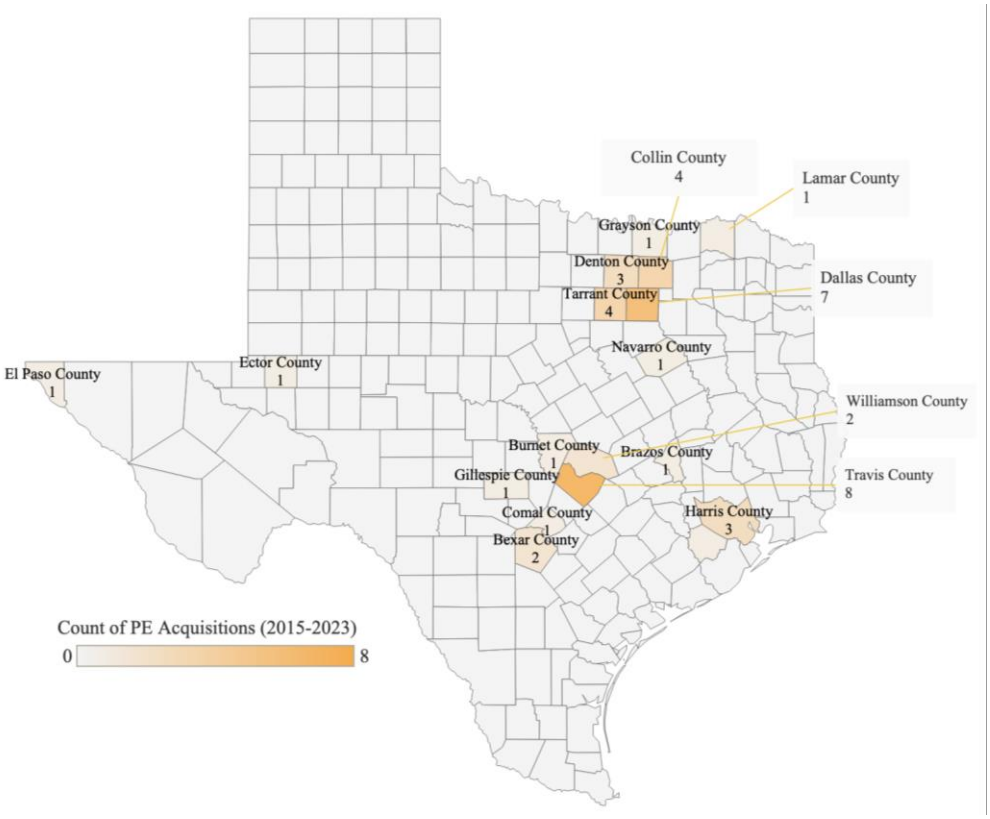
Source: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). The graph shows county-level penetration for observations with available ZIP code

information. County labels are shown for counties with the number of PE acquisitions greater or equal to n=1.

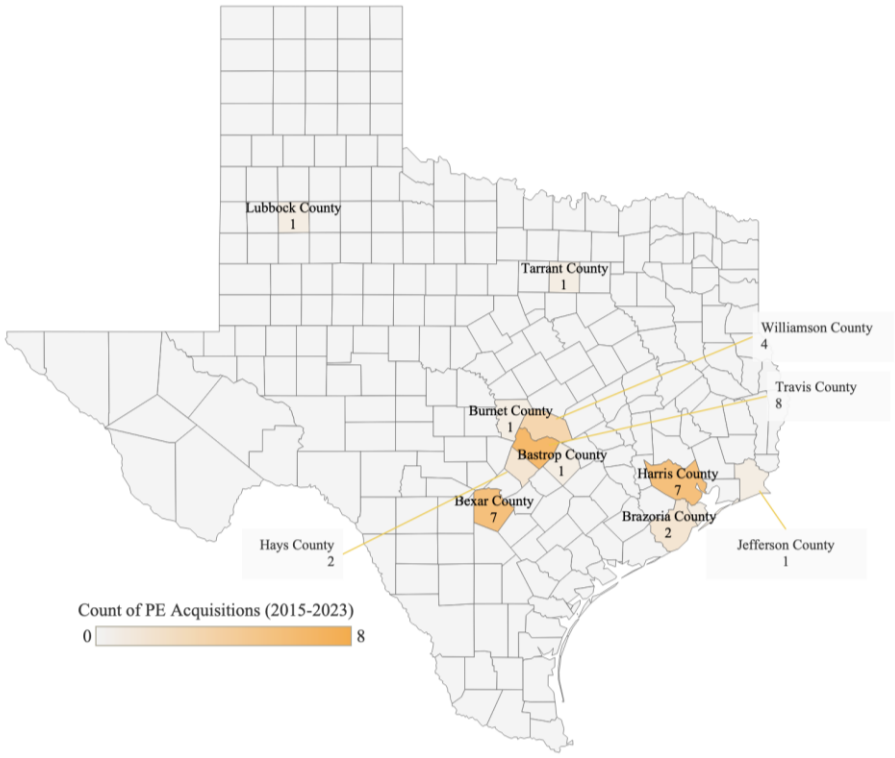
Note: There were no reported deals in cardiology. Data on county-level PE penetration for oncology was unavailable and has not been included in the specialty specific maps.

Panel C: Texas

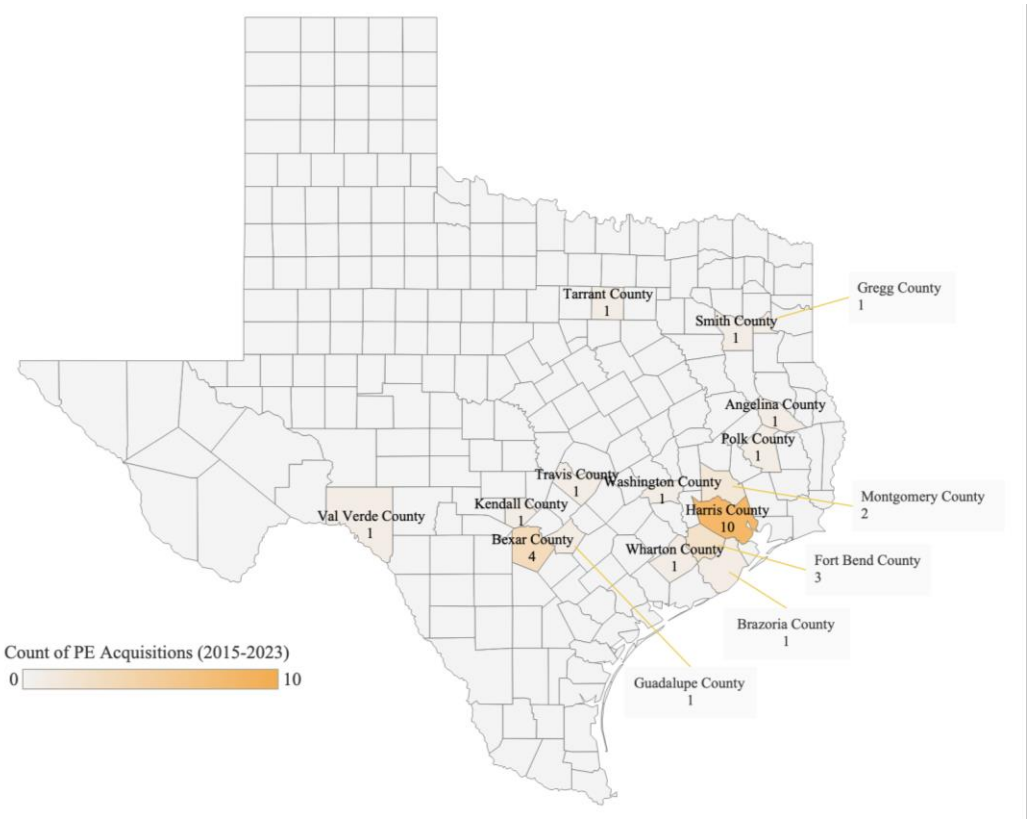
Dermatology (n=43)



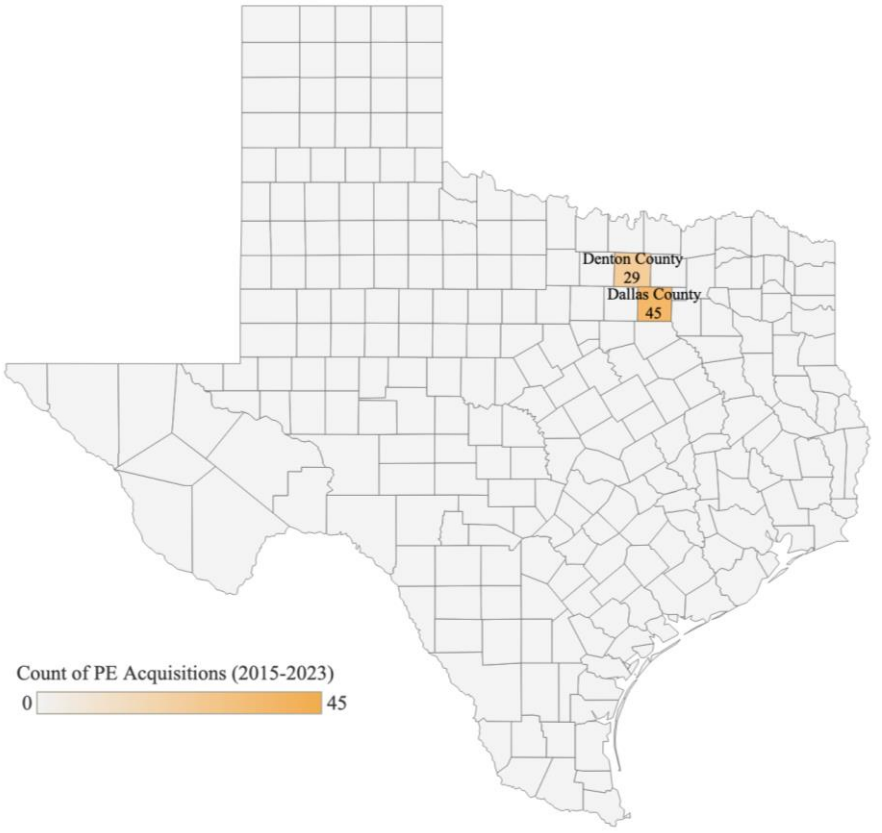
Gastroenterology (n=37)


Lubbock County
1
Tarrant County
1
Williamson County
4
Travis County
8
Burnet County
1
Bastrop County
1
Harris County
7
Bexar County
7
Brazoria County
2
Hays County
2
Jefferson County
1
Count of PE Acquisitions (2015-2023)
0
8

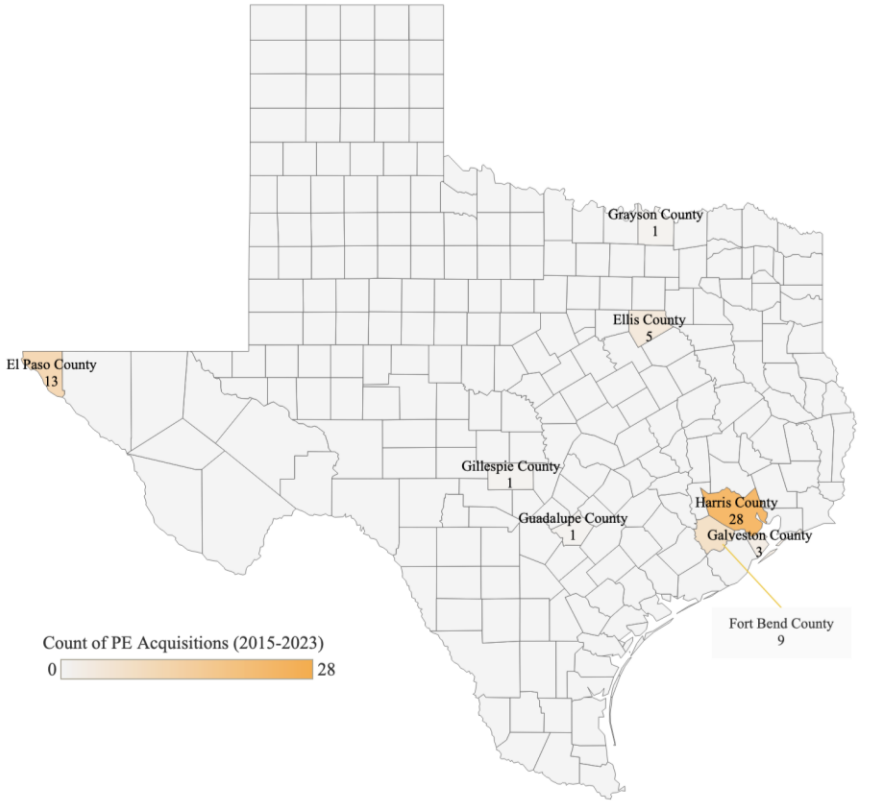
Ophthalmology (n=31)



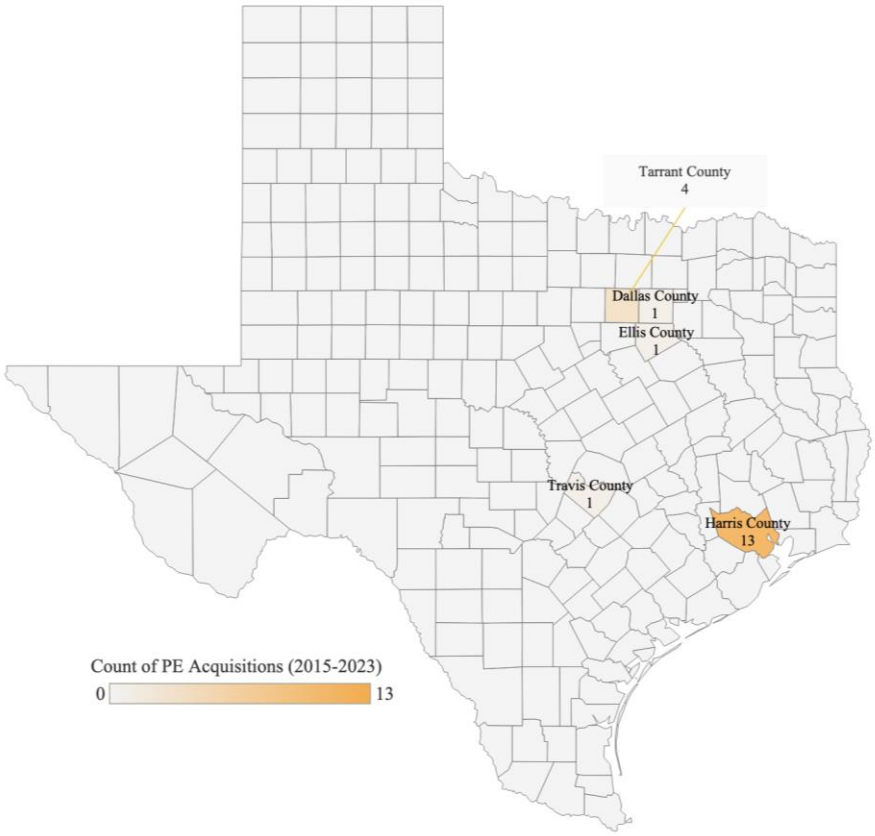
Cardiology (n=74)


Denton County
29
Dallas County
45
Count of PE Acquisitions (2015-2023)
0
45

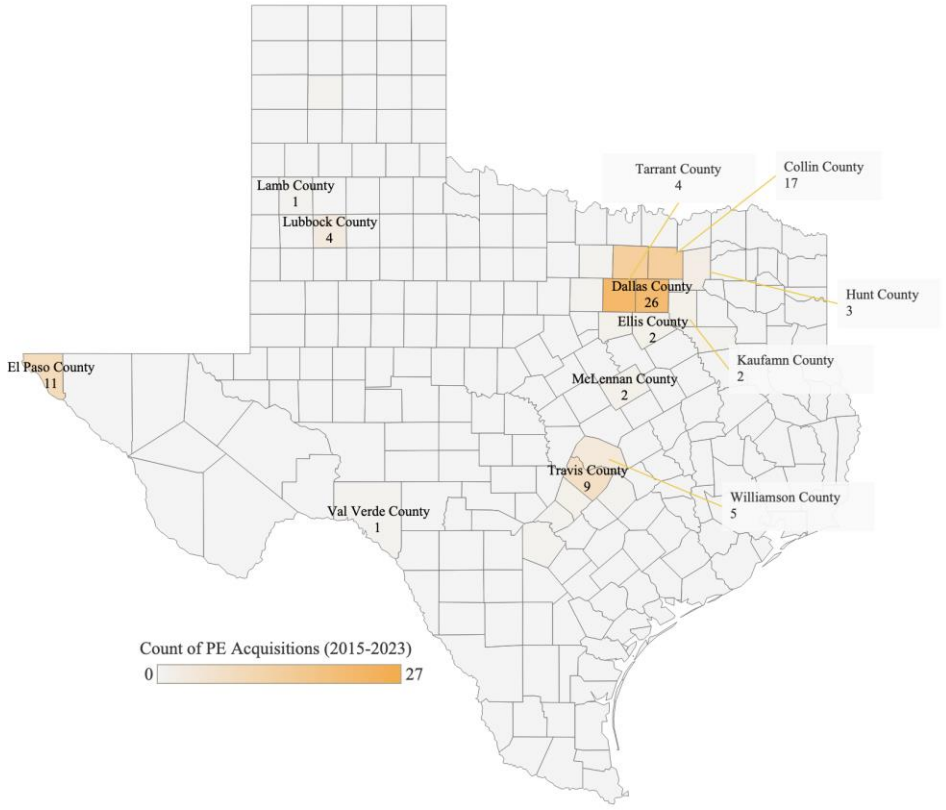
Primary Care (n=61)



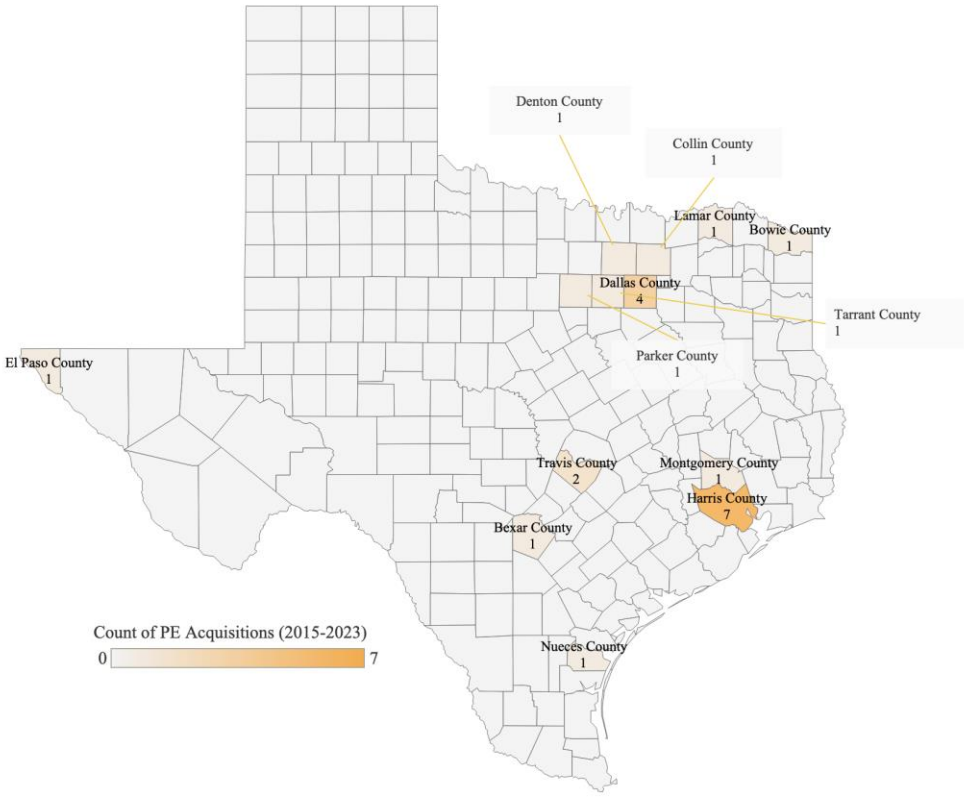
Orthopedics (n=20)



Physical Therapy (n=140)



Radiology (n=23)



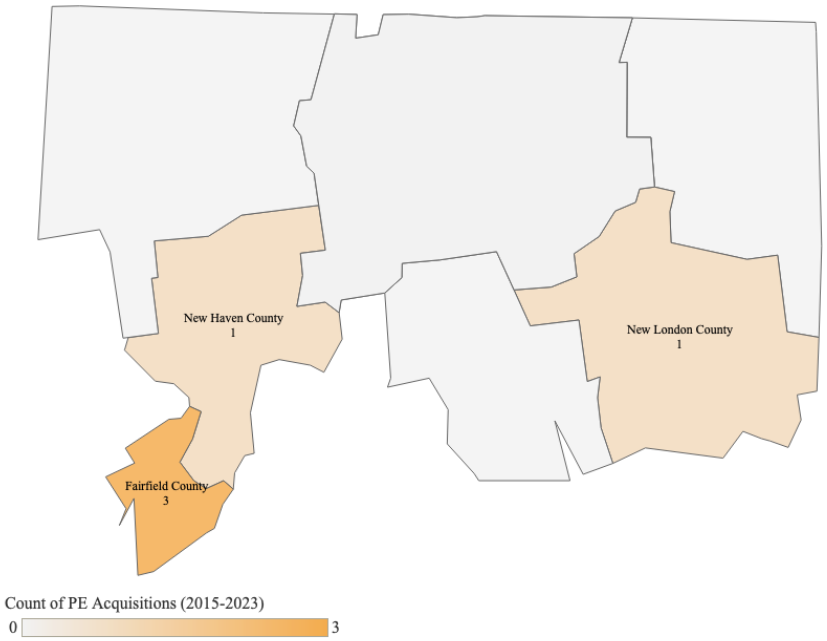
Obstetrics/Gynecology (n=7)

Source: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). The graph shows county-level penetration for observations with available ZIP code information. County labels are shown for counties with the number of PE acquisitions greater or equal to n=1.

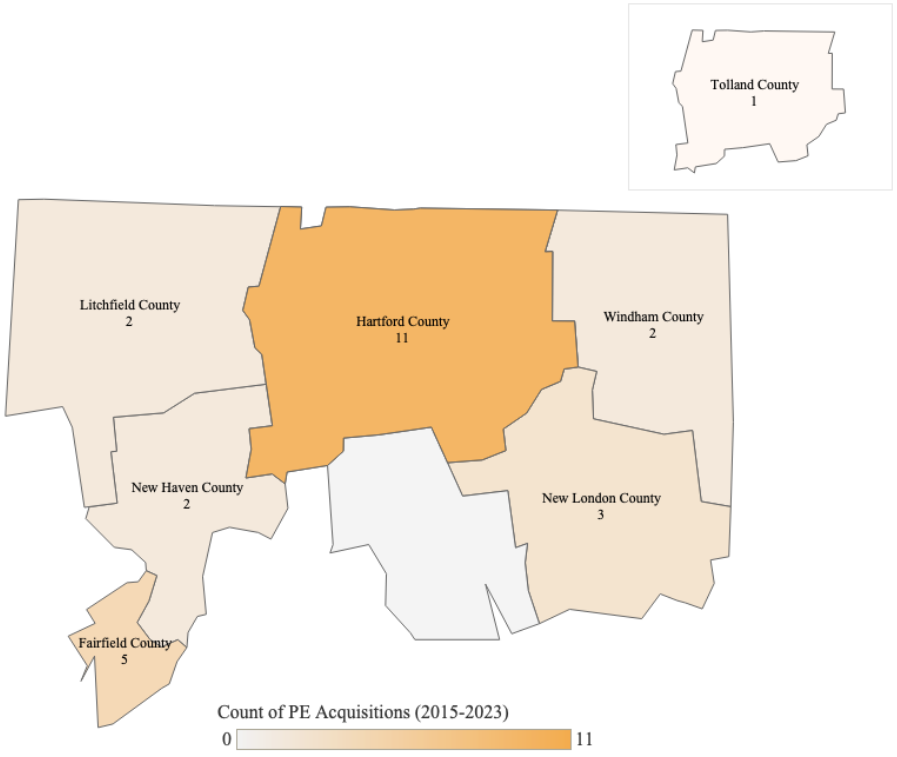
Note: Data on county-level PE penetration for oncology was unavailable and has not been included in the specialty specific maps.

Panel D: Connecticut

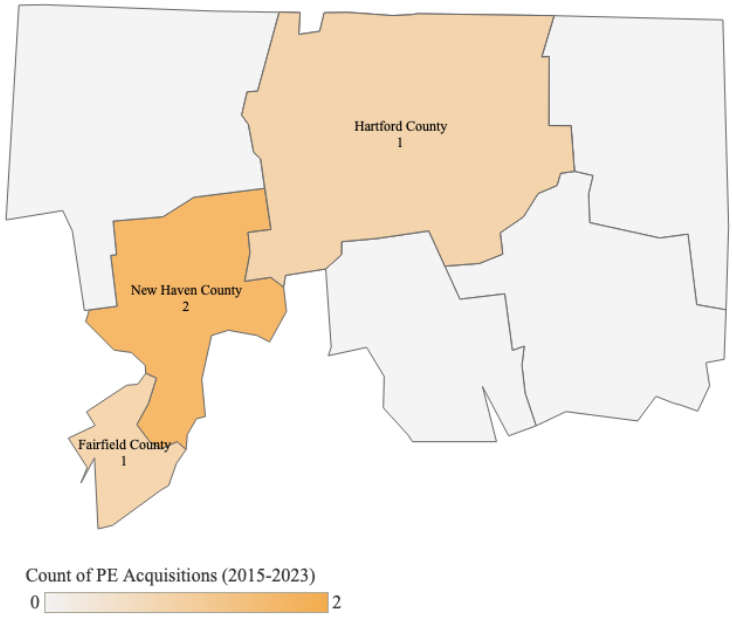
Dermatology (n=5)



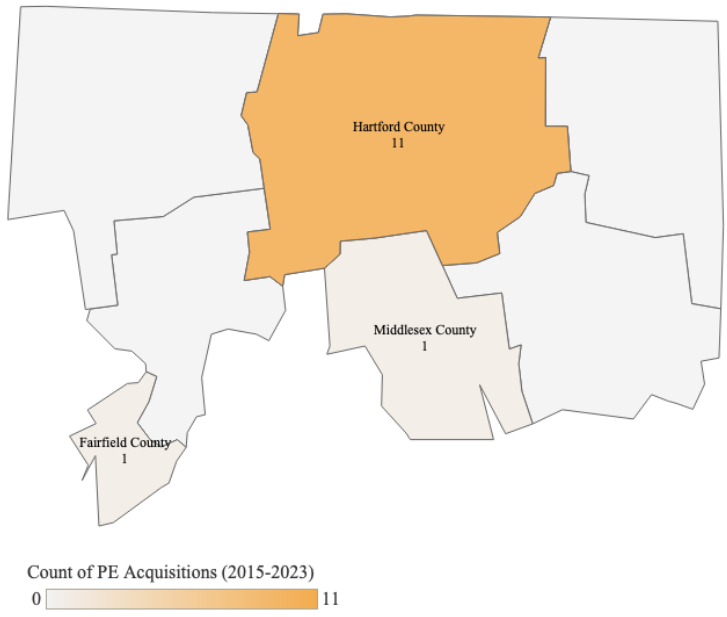
Gastroenterology (n=26)


Tolland County
1
Litchfield County
2
Hartford County
11
Windham County
2
New Haven County
2
New London County
3
Fairfield County
5
Count of PE Acquisitions (2015-2023)
0
11

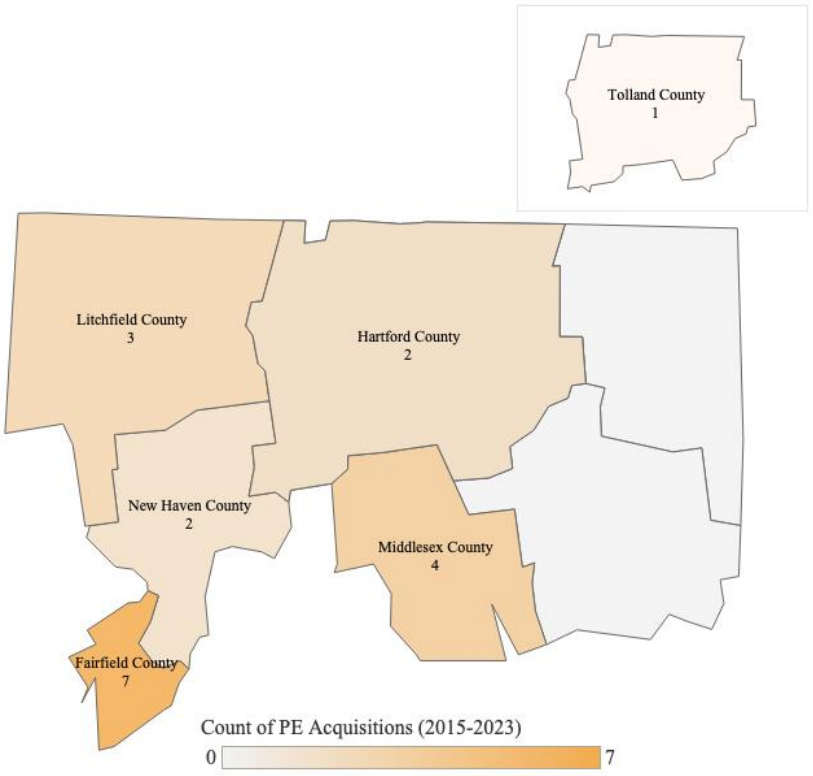
Ophthalmology (n=4)



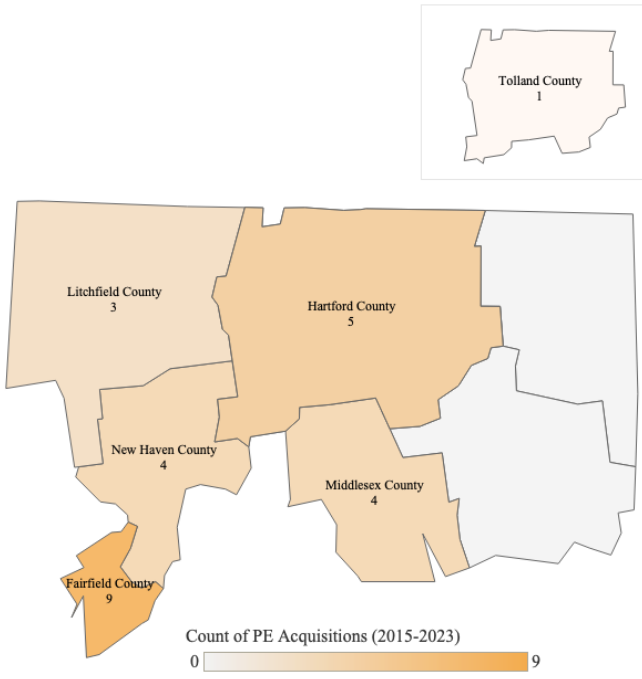
Primary Care (n=13)



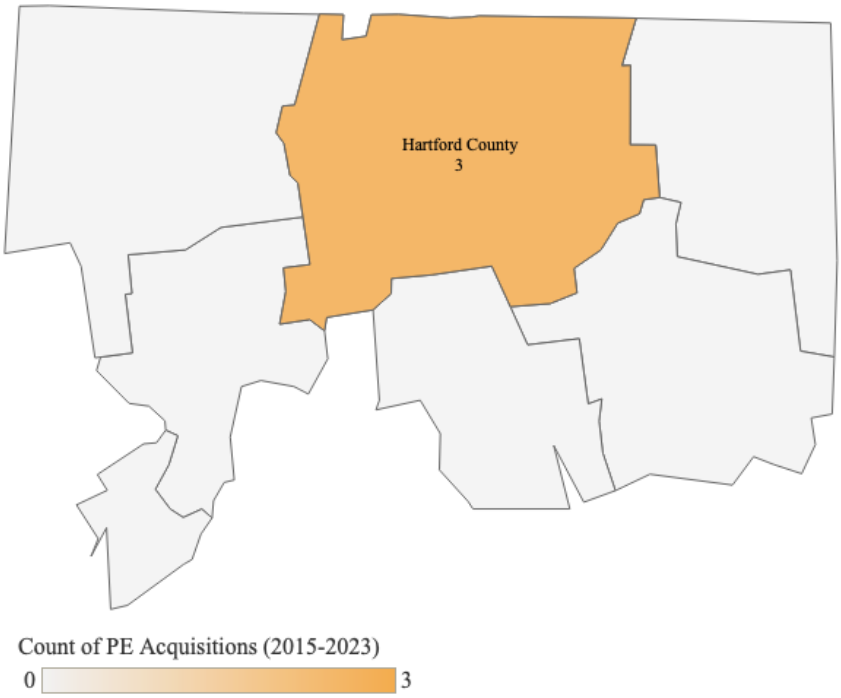
Orthopedics (n=19)



Physical Therapy (n=26)



Radiology (n=3)

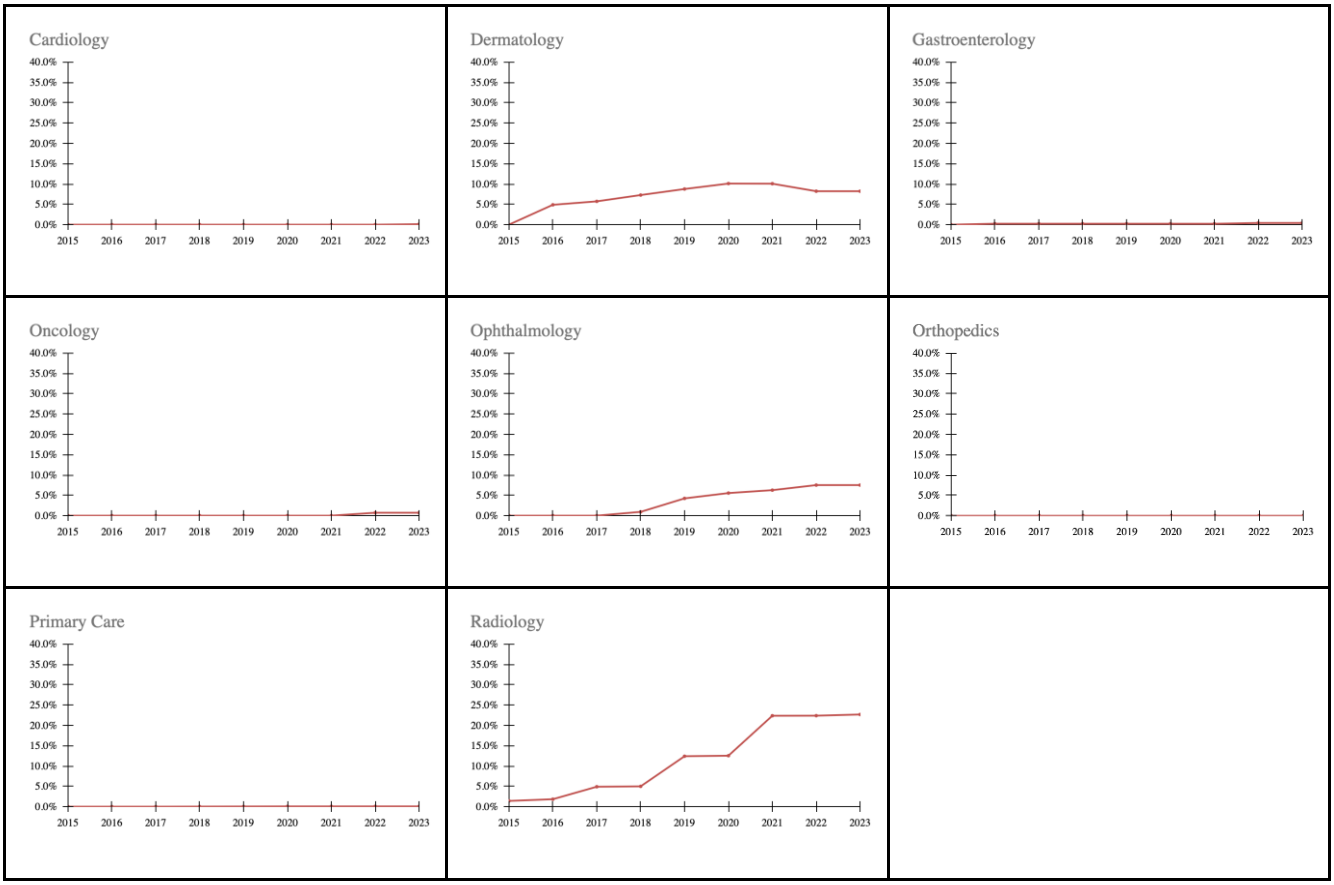


Source: Author's analysis of Pitchbook and secondary data sources (industry reports, press releases, company websites). The graph shows county-level penetration for observations with available ZIP code information. County labels are shown for counties with the number of PE acquisitions greater or equal to n=1.

Note: There were no reported deals in cardiology and obstetrics/gynecology. Data on county-level PE penetration for oncology was unavailable and has not been included in the specialty specific maps.

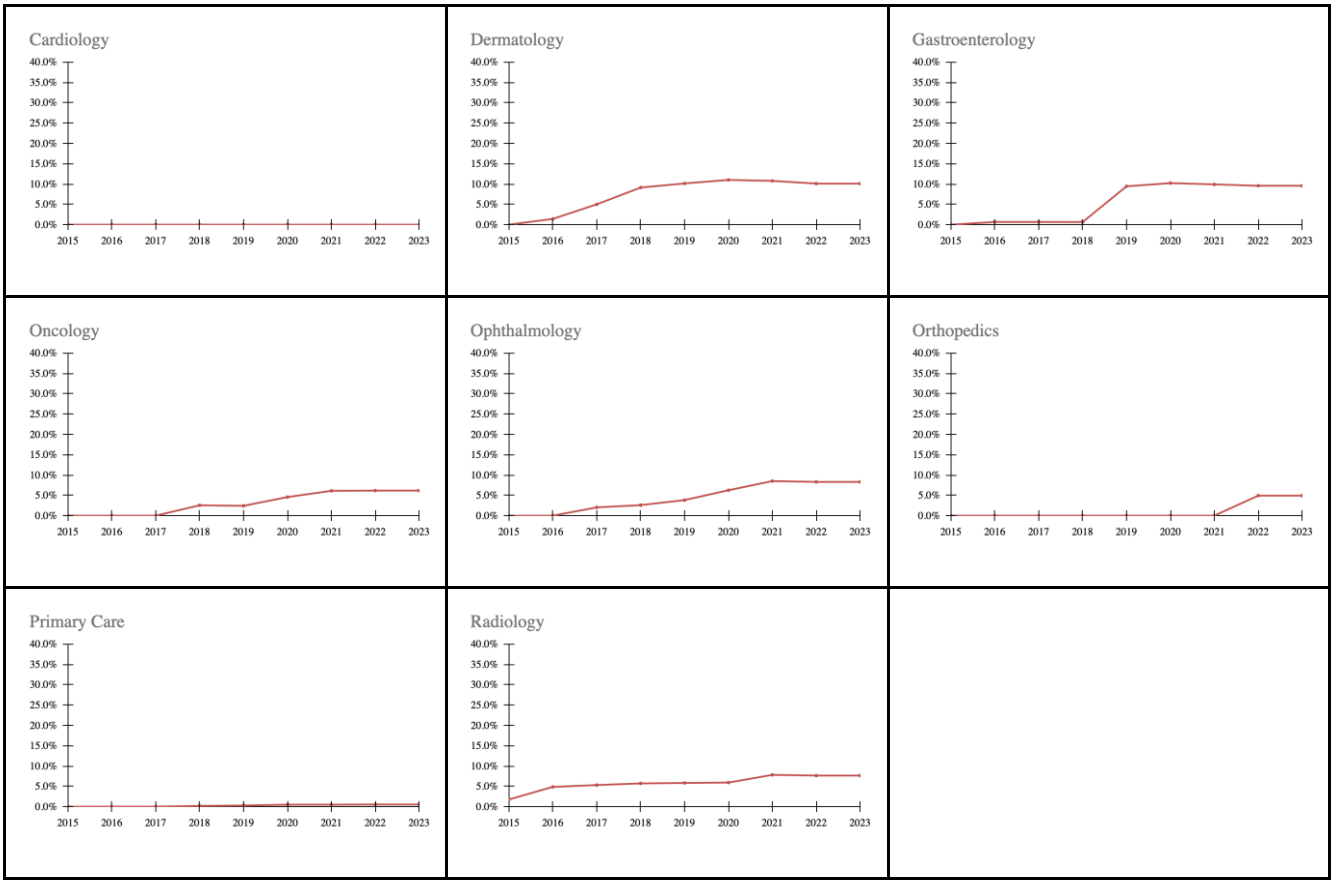
Appendix 2. Share of Physicians in Private Equity–Affiliated Specialty Practices, 2015-2023

Panel A: North Carolina



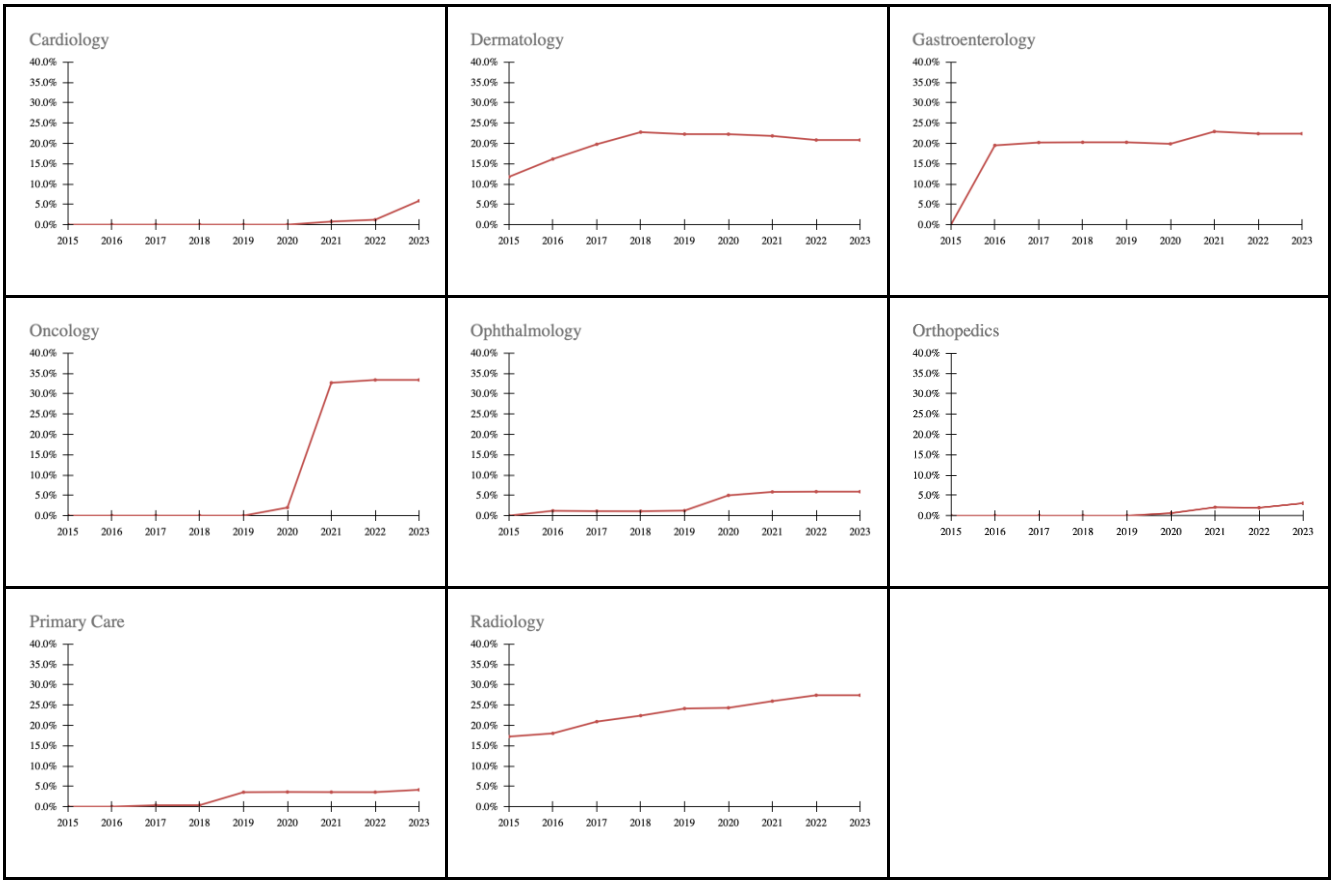
Note: Figures display annual private-equity (PE) penetration for each specialty in North Carolina. The vertical axis represents the share of physicians in a given specialty who were ever observed practicing in a PE-acquired practice. PE affiliation is identified using the 2015-2022 Medicare Data on Provider Practice and Specialty (MD-PPAS) by linking physicians to practices acquired by PE firms during this period. Because MD-PPAS was available through 2022, deals occurring in 2023 were linked to 2022 MD-PPAS data. For each year, PE penetration is calculated as the number of physicians in that specialty who were ever PE-affiliated up to that year divided by the total number of actively billing physicians in the same specialty. Because PE affiliation is measured through 2023, estimates may understate changes occurring after that year.

Panel B: Pennsylvania



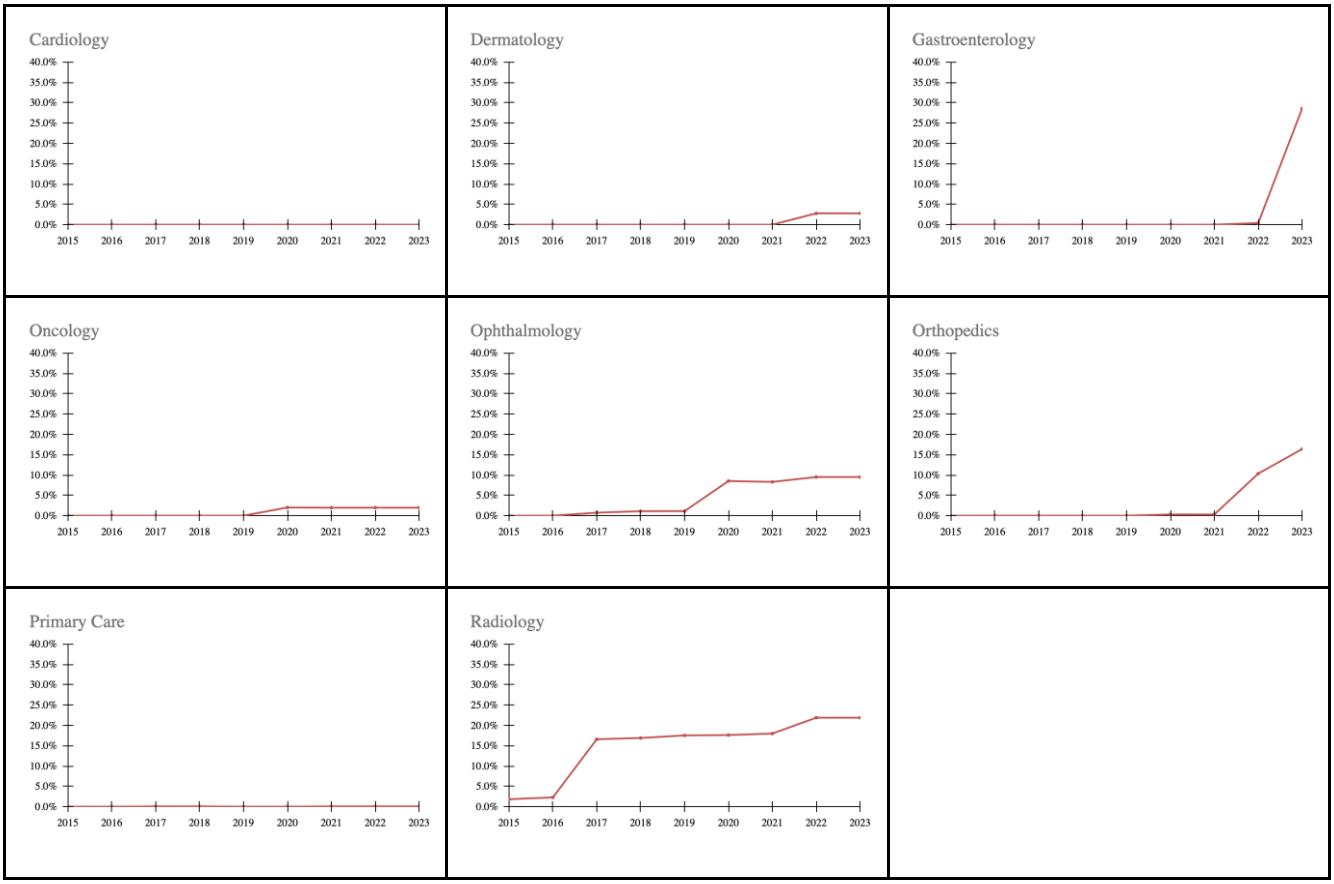
Note: Figures display annual private-equity (PE) penetration for each specialty in Pennsylvania. The vertical axis represents the share of physicians in a given specialty who were ever observed practicing in a PE-acquired practice. PE affiliation is identified using the 2015-2022 Medicare Data on Provider Practice and Specialty (MD-PPAS) by linking physicians to practices acquired by PE firms during this period. Because MD-PPAS was available through 2022, deals occurring in 2023 were linked to 2022 MD-PPAS data. For each year, PE penetration is calculated as the number of physicians in that specialty who were ever PE-affiliated up to that year divided by the total number of actively billing physicians in the same specialty. Because PE affiliation is measured through 2023, estimates may understate changes occurring after that year.

Panel C: Texas



Note: Figures display annual private-equity (PE) penetration for each specialty in Texas. The vertical axis represents the share of physicians in a given specialty who were ever observed practicing in a PE-acquired practice. PE affiliation is identified using the 2015-2022 Medicare Data on Provider Practice and Specialty (MD-PPAS) by linking physicians to practices acquired by PE firms during this period. Because MD-PPAS was available through 2022, deals occurring in 2023 were linked to 2022 MD-PPAS data. For each year, PE penetration is calculated as the number of physicians in that specialty who were ever PE-affiliated up to that year divided by the total number of actively billing physicians in the same specialty. Because PE affiliation is measured through 2023, estimates may understate changes occurring after that year.

Panel D: Connecticut



Note: Figures display annual private-equity (PE) penetration for each specialty in Texas. The vertical axis represents the share of physicians in a given specialty who were ever observed practicing in a PE-acquired practice. PE affiliation is identified using the 2015-2022 Medicare Data on Provider Practice and Specialty (MD-PPAS) by linking physicians to practices acquired by PE firms during this period. Because MD-PPAS was available through 2022, deals occurring in 2023 were linked to 2022 MD-PPAS data. For each year, PE penetration is calculated as the number of physicians in that specialty who were ever PE-affiliated up to that year divided by the total number of actively billing physicians in the same specialty. Because PE affiliation is measured through 2023, estimates may understate changes occurring after that year.