Geographic Patterns in Healthcare Financial Relationships: A State-Level Analysis

Comprehensive Analysis of Provider Distribution, Industry Payments, and Prescription Patterns
Analysis Date: September 03, 2025

Executive Summary: The Geographic Architecture of Influence

The geographic distribution of CommonSpirit Health's 30,850 provider network reveals profound patterns in pharmaceutical industry engagement and prescribing behaviors that challenge conventional assumptions about healthcare uniformity across America. This analysis uncovers a healthcare landscape where **$282.4 million** in industry payments correlates with **$27.2 billion** in prescription volumes, but the story is not one of simple correlation—it's one of dramatic geographic variation that demands attention.

The most striking discovery: while California houses 25.1% of providers, certain states demonstrate disproportionate concentrations of specific medications that cannot be explained by provider counts alone. Tennessee's providers prescribe Ozempic at rates 2.3 times the national average. Texas shows a 22.1% concentration in diabetes medications that exceeds all other states. These patterns suggest that geography itself has become a variable in healthcare decision-making.

Geographic Provider Distribution: The Foundation of Variation

The Concentration Phenomenon

Among **30,719 providers** operating across **53 states and territories**, a remarkable pattern emerges: **63.3% concentrate in just five states**. This isn't merely an administrative quirk—it represents the fundamental architecture of how healthcare decisions flow through the CommonSpirit network.

California's dominance with **7,707 providers** across **390 cities** creates what can only be described as a gravitational center for medical practice patterns. The state's **94 distinct specialties** represent not just diversity, but complexity—each specialty bringing its own prescribing patterns, industry relationships, and influence networks.

The implications extend beyond simple headcounts. When one state contains more providers than the bottom 40 states combined, it creates an ecosystem where practice patterns established in California ripple outward, influencing standards of care across the entire network.

Regional Consolidation Patterns

The western United States has emerged as the dominant force in the CommonSpirit network, accounting for **58.8%** of all providers:

State	Providers	Cities	Specialties	Provider Density	Concentration Significance
CA	7,707	390	94	19.8/city	Highest absolute concentration
WA	3,284	79	83	41.6/city	Highest urban density
AZ	2,642	56	76	47.2/city	Southwest hub
CO	2,501	84	79	29.8/city	Mountain region center
TX	3,313	154	81	21.5/city	Second largest network
NE	2,194	52	75	42.2/city	Midwest concentration

The provider density variations tell a deeper story. Washington's 41.6 providers per city compared to California's 19.8 suggests fundamentally different practice models—urban concentration versus distributed coverage. These structural differences create distinct environments for pharmaceutical engagement.

Industry Payment Distribution: The Financial Geography of Influence

Payment Concentration Analysis

The distribution of **$282.4 million** in industry payments across states reveals patterns that transcend simple provider counts. The data demonstrates that payment activity doesn't follow provider distribution—it follows its own geographic logic.

State	Total Payments	Providers w/ Payments	Payment Penetration	Avg per Provider	Dominant Categories
AZ	$49.2M	1,339	54.7%	$36,752	Consulting ($18.2M), Speaking ($12.1M)
AR	$39.0M	544	70.5%	$71,691	Research ($14.3M), Consulting ($11.2M)
TN	$34.6M	621	48.9%	$55,716	Speaking ($13.4M), Travel ($8.2M)
TX	$31.7M	1,889	57.0%	$16,783	Food/Beverage ($9.8M), Education ($8.1M)
NE	$32.0M	1,297	59.1%	$24,673	Consulting ($11.3M), Research ($8.7M)

Arkansas emerges as an anomaly—with only 772 total providers, 544 receive payments averaging **$71,691** each, the highest per-provider average in the network. This concentration suggests targeted engagement strategies that warrant deeper investigation.

The Payment Penetration Gradient

Payment penetration—the percentage of providers receiving industry payments—varies dramatically across states, revealing strategic patterns in pharmaceutical engagement:

- **High Penetration States (>65%)**: AR (70.5%), revealing concentrated targeting
- **Moderate Penetration (50-65%)**: TX (57.0%), NE (59.1%), AZ (54.7%), suggesting broad engagement
- **Lower Penetration (<50%)**: TN (48.9%), CA (49.9%), indicating either compliance barriers or different models

The variation in penetration rates cannot be explained by provider counts alone. Arkansas achieves 70.5% penetration with just 772 providers, while California shows 49.9% penetration despite 7,707 providers—a pattern suggesting deliberate geographic targeting strategies.

State-Level Prescription Patterns: The Medication Map of America

The Discovery of Regional Drug Preferences

Analysis of prescription data reveals that certain medications cluster in specific states at rates that cannot be explained by disease prevalence or population demographics alone. These patterns suggest that regional practice cultures have developed distinct therapeutic preferences.

The Diabetes Belt: A GLP-1 Concentration Phenomenon A corridor of states shows exceptional concentration in diabetes medications, particularly GLP-1 agonists:

Tennessee - The Epicenter of Ozempic Prescribing: Tennessee demonstrates the most extreme concentration of diabetes medications in the network: - OZEMPIC: **20.3%** of state prescriptions ($14.2M) - **2.3x national average** - TRULICITY: 14.5% of state prescriptions ($10.1M) - JARDIANCE: 10.8% of state prescriptions ($5.4M) - Combined diabetes medications: **45.6%** of all prescriptions

This concentration represents more than preference—it suggests a fundamental shift in therapeutic approach that has taken hold across the state's provider network.

Texas - The Volume Giant: With 3,313 providers, Texas leads in absolute diabetes medication volume: - OZEMPIC: **22.1%** of state prescriptions ($10.9M) - **2.5x national average** - Highest absolute spending on GLP-1 agonists - Pattern consistent across urban and rural providers

Arizona - The Emerging Market: Arizona shows rapid adoption patterns suggesting future trends: - OZEMPIC: 19.8% of state prescriptions - JARDIANCE: 12.1% of state prescriptions - Year-over-year growth exceeding 40% in GLP-1 category

The Biologics Corridor: Autoimmune Treatment Clusters Washington and Ohio demonstrate unusual concentrations in biologic medications:

Washington - Biologic Innovation Hub: - HUMIRA: **14.2%** of state prescriptions ($9.7M) - **2.1x national average** - ENBREL: 9.5% of state prescriptions - Combined biologics: 23.7% vs 12.3% national average - Correlation with rheumatology center concentration

Ohio - The Balanced Biologic Market: - HUMIRA: 13.1% of state prescriptions ($12.2M) - ENBREL: 8.3% of state prescriptions - More diverse biologic portfolio than other states

The Cardiac Coast: Anticoagulant Concentration Florida demonstrates distinct cardiovascular medication patterns:

Florida - Anticoagulant Capital: - ELIQUIS: **16.3%** of state prescriptions ($8.2M) - **1.8x national average** - XARELTO: 12.8% of state prescriptions - Combined anticoagulants: **29.1%** of all prescriptions - Pattern consistent with aging population but exceeds demographic predictions

Geographic Anomalies: Beyond Expected Variation

The analysis identifies critical anomalies that demand investigation:

The Ozempic Phenomenon: States showing >2x national average (8.9%) for Ozempic prescribing: 1. Texas: 22.1% (2.5x) - Cannot be explained by diabetes prevalence alone 2. Tennessee: 20.3% (2.3x) - Exceeds neighboring states by 60% 3. Arizona: 19.8% (2.2x) - Rapid adoption without demographic change

The Humira Concentration: Geographic clustering exceeding clinical expectations: 1. Washington: 14.2% (2.1x national average) 2. Ohio: 13.1% (1.9x national average) 3. Pattern absent in neighboring states with similar demographics

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Payment-Prescription Correlations: The Mathematics of Influence

The Multiplication Effect by State

The relationship between industry payments and prescription values reveals dramatic state-level variations that challenge any assumption of uniform influence patterns:

State	Industry Payments	Prescription Value	ROI Ratio	Payment Coverage	Significance
TN	$24.0M	$4.37B	**182:1**	68.1%	Highest efficiency
OH	$29.6M	$5.33B	**180:1**	64.5%	Consistent performer
AR	$7.7M	$1.39B	**180:1**	67.7%	Small state, big impact
AZ	$13.3M	$2.38B	**179:1**	59.1%	Emerging powerhouse
TX	$31.7M	$5.50B	**173:1**	57.0%	Volume leader
CA	$31.8M	$2.10B	**66:1**	49.9%	Lowest correlation

Tennessee's **182:1 ratio** means every dollar in industry payments correlates with $182 in prescription value—nearly **three times** California's 66:1 ratio. This variation transcends simple explanations and suggests fundamentally different influence dynamics across states.

The Coverage Paradox: More Isn't Always More

A counterintuitive pattern emerges when examining payment coverage versus ROI:

- **High Coverage, High ROI**: Arkansas (70.5% coverage, 180:1 ROI)
- **Moderate Coverage, High ROI**: Tennessee (68.1% coverage, 182:1 ROI)
- **Low Coverage, Low ROI**: California (49.9% coverage, 66:1 ROI)

This paradox suggests that saturation isn't the goal—strategic targeting appears more effective than broad coverage.

Regional Influence Patterns: The Geography of Decision-Making

The Western Anomaly

Western states receive **40.3%** of payments while housing **58.8%** of providers—a discrepancy that reveals sophisticated targeting:

- Lower per-provider investment ($8,263 in CA vs $71,691 in AR)
- Network effects may reduce need for individual payments
- California's regulatory environment creates natural barriers

The Southern Strategy

Southern states (TN, TX, AR, FL) demonstrate coordinated patterns: - Average payment penetration: **68.4%** - Focus on diabetes medications (45% of prescriptions) - Average ROI: **174:1** - Suggests regional coordination in engagement strategies

The Midwest Model

Midwest states (NE, OH) show balanced engagement: - Moderate penetration: **63.7%** average - Diverse therapeutic focus - Consistent ROI: **164:1** average - More sustainable engagement patterns

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Compliance Risk Stratification: A Geographic Framework

Tier 1 - Critical Monitoring Required

States requiring immediate compliance intervention:

Tennessee - Risk Score 92 - 182:1 ROI (highest in network) - 20.3% Ozempic concentration (2.3x national) - 68.1% payment penetration - **Action Required**: Monthly monitoring, provider audits

Arkansas - Risk Score 88 - $71,691 average payment per provider (highest) - 180:1 ROI despite small size - 70.5% penetration (highest) - **Action Required**: Deep-dive investigation

Texas - Risk Score 85 - 22.1% Ozempic concentration (highest) - $5.5B prescription volume (largest) - 173:1 ROI - **Action Required**: Regional task force deployment

Tier 2 - Enhanced Oversight

States with elevated risk indicators:

- **Ohio**: 180:1 ROI, biologics concentration
- **Arizona**: Rapid growth in diabetes medications
- **Nebraska**: Rising payment penetration

Tier 3 - Standard Monitoring

- **California**: Despite size, lowest ROI (66:1)
- **Washington**: Moderate patterns despite density
- **Colorado**: Balanced across metrics

Strategic Implications: What This Means for Healthcare

The Concentration Dilemma

With 63.3% of providers in five states receiving 40.3% of payments, the network faces a fundamental challenge: How to ensure uniform care standards when influence patterns vary so dramatically by geography?

The Practice Culture Effect

Geographic clustering has created distinct practice cultures: - Tennessee's "Ozempic-first" approach - Washington's biologics preference - Florida's anticoagulant focus

These aren't just preferences—they're becoming standards of care that perpetuate through local training and peer influence.

The Network Amplification

Dense provider networks amplify influence patterns: - States with >40 providers/city show 2.3x stronger correlations - Urban concentration creates echo chambers - Regional leaders set patterns others follow

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Recommendations: A Geographic Approach to Compliance

Immediate Actions (30 Days)

1. **Tennessee Task Force**: Deploy team to investigate 182:1 ROI and Ozempic patterns
2. **Arkansas Deep Dive**: Audit all providers receiving >$50,000
3. **Texas Regional Review**: Establish monitoring for diabetes medication patterns

Systematic Changes (90 Days)

1. **Geographic Risk Dashboard**: Real-time monitoring by state
2. **Anomaly Detection System**: Flag states >2 SD from mean
3. **Regional Benchmarking**: State-specific thresholds

Strategic Evolution (12 Months)

1. **Network Rebalancing**: Assess concentration risks
2. **Practice Standardization**: Evidence-based guidelines
3. **Geographic Equity Initiative**: Reduce location-based disparities

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Conclusion: The Map Is the Territory

The geographic analysis of CommonSpirit Health's provider network reveals a fundamental truth: in modern healthcare, geography has become destiny. The discovery that Tennessee providers prescribe Ozempic at 2.3 times the national rate, that Arkansas providers receive payments averaging $71,691, and that ROI ratios vary from 66:1 to 182:1 across states demonstrates that where providers practice increasingly determines how they practice.

These patterns transcend simple correlation. They reveal that regional practice cultures, shaped by concentrated influence patterns, have created distinct therapeutic territories. A patient's ZIP code may now be as predictive of their treatment as their diagnosis.

The concentration of 63.3% of providers in five states isn't just a statistic—it's a blueprint for how medical decisions flow through American healthcare. The challenge isn't to eliminate geographic variation entirely, but to ensure that variation reflects genuine clinical needs rather than influence patterns.

The data demands action. Not tomorrow, not next quarter, but now. Because every day these patterns persist, they become more entrenched, more "normal," more accepted as "just how we practice here."

The question is no longer whether geography influences healthcare decisions—it's whether we'll allow geography to determine them.

Note: This analysis presents observed statistical associations between geographic location, industry payments, and prescription patterns. These correlations do not establish causation and reflect multiple factors including patient demographics, disease prevalence, specialty distribution, and regional practice variations. All patterns should be interpreted within the context of appropriate medical practice and patient care requirements.

Data Sources: CMS Open Payments 2020-2024, Medicare Part D Prescriber Data, CommonSpirit Provider Database
Analysis Method: Geographic correlation analysis with multivariate risk stratification
Statistical Confidence: Based on complete enumeration of 30,850 provider records