



MERCATUS CENTER
George Mason University

Health RegData

Quantifying Healthcare Regulations

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Roadmap

- Overview
- Methodology
- Results
- Possible Uses

Overview

What is Health RegData

Brief Overview: Health RegData

We know that:

- US healthcare is complex and expensive
- We have poorer outcomes compared to OECD countries
- Healthcare shaped by regulations

Brief Overview: Health RegData

Typical regulations include:

- Drug approvals
- Medical licensing for professionals
- Scope of practice for professionals
- Insurance benefits/coverage

Brief Overview: Health RegData

Open Health, Mercatus Center @ George Mason University

- Better health for cheaper
- Remove barriers to innovation
- Increase supply of quality healthcare

Brief Overview: Health RegData

Ever wondered:

- # of healthcare regulations?
- Types of healthcare regulations in each state?
- How do regulations differ across states?
- How do regulations affect health outcomes?

Brief Overview: Health RegData

What is Health RegData?

- Quantify information about regulations
- Create data directly from regulations

Brief Overview: Health RegData

- Identify healthcare regulations
- Quantify the regulations
- Classify into industries affected
- Classify into topics/areas such as licensing, pharmaceutical drugs, scope of practice, etc.

Brief Overview: Health RegData

Version 1: Data Available for 44 States and DC

- Repeated cross-section
- Time series for federal: 1997 - 2020
- Time series for some states (Idaho, Indiana, Kentucky, Missouri, Oregon, Washington)

Methodology

How do we do it?

Methodology

Machine learning and text analysis

1. Gather regulatory text from jurisdictions
2. Determine unit of analysis
3. Define healthcare
4. Create training data

Methodology

Machine learning and text analysis

4. Build algorithm and train algorithm
5. Determine probability document pertains to healthcare
6. Determine affected industry
7. Quantify restrictions

Methodology

Machine learning and text analysis

7. Quantify restrictions (Continued)

Occurrence of restrictive terms: “shall,” “must,”
“required,” “prohibited,” and “may not”

Results

Predicted Healthcare Regulations

State	Threshold	Healthcare Probability	Document Title	Agency	# Restrictions
Oregon	0.86	1	Hospice Services	Oregon Health Authority	72
Maryland	0.88	0.95	Responsibilities Accreditations And Audits	Maryland Department Of Health	21
Kentucky	0.87	0.91	Relative Responsibility Requirements for Medicaid	Cabinet for Health and Family Services	34
Nevada	0.83	0	Taxes on Agricultural Real Property and Open Space		62
Wisconsin	0.86	0.04	Personnel Qualifications For Conducting Environmental Response Actions	Department Of Natural Resources	43
Maryland	0.88	0.03	Board Of Boiler Rules	Maryland Department Of Labor	422
New York	0.86	0.01	Security Officer Training Tax Credit	Executive Department	26
New Mexico	0.87	0.1	Calculation of Excise Tax	Taxation	8

of Healthcare Regulatory Restrictions

Metric	All Regulations	Healthcare Regulations	Healthcare %
Total Restrictions	5,974,310	805,817	13.49
Total Words	407,421,667	55,480,958	13.62

Healthcare Regulatory Restrictions

State	Restrictions			Words		
	Healthcare	Total	Healthcare %	Healthcare	Total	Healthcare %
Alabama	19,515	107,880	18.09	1,443,280	7,533,874	19.16
Arizona	12,860	64,319	19.99	1,762,790	6,004,954	29.36
California	28,548	395,608	7.22	1,357,919	21,284,860	6.38
Colorado	28,914	154,964	18.66	2,061,867	12,177,626	16.93
District of Columbia	25,087	137,185	18.29	1,424,467	8,128,682	17.52
Delaware	12,753	105,475	12.09	959,213	6,787,820	14.13
Florida	26,195	168,795	15.52	1,588,312	10,986,328	14.46

Affected Industries

NAICS Code	Industry	Restrictions	% of Total	Cumulative %
621	Ambulatory Health Care Services	132,033	24.62	24.62
561	Administrative and Support Services	119,180	22.22	46.84
624	Social Assistance	36,412	6.79	53.63
524	Insurance Carriers and Related Activities	33,628	6.27	59.90
541	Professional Scientific and Technical Services	33,073	6.17	66.07
322	Paper Manufacturing	24,505	4.57	70.64
445	Food and Beverage Stores	18,720	3.49	74.13
623	Nursing Homes	17,983	3.35	77.49
622	Hospitals	10,907	2.03	79.52
611	Educational Services	8,386	1.56	81.08

Possible Uses

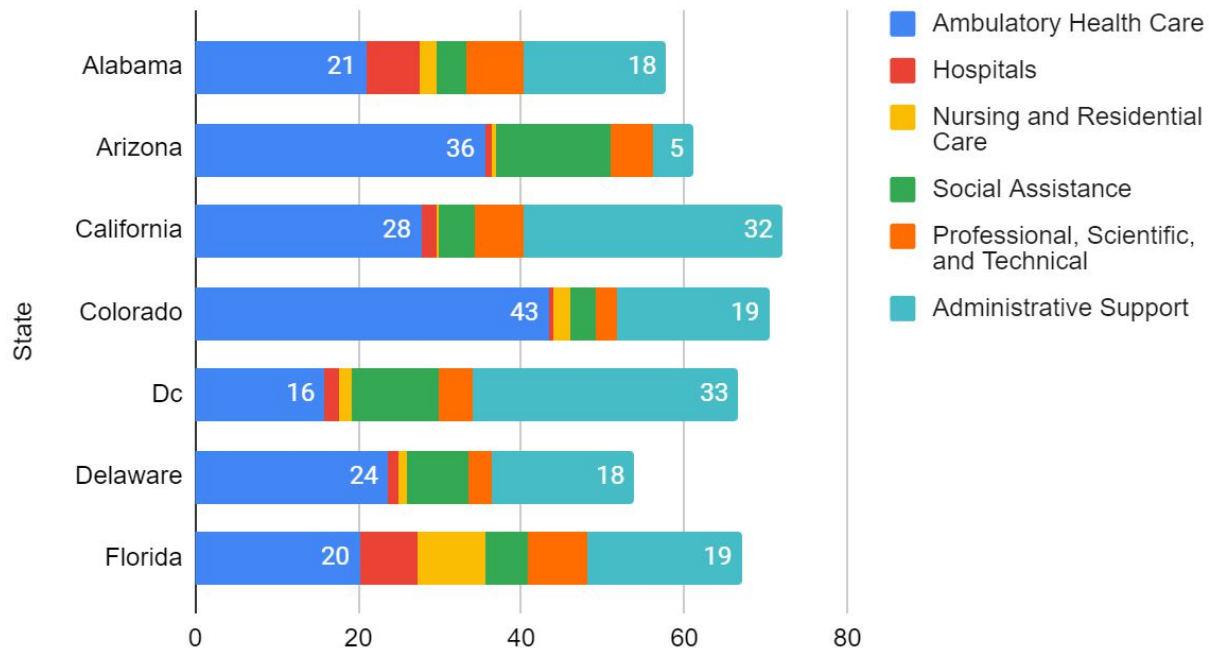
How can you use these data?

Possible Uses

- Combine with other other data, including healthcare metrics, e.g. AHRQ's outcomes data, Medicaid claims data, cost and utilization
- Examine the evolution of various types of regulations nationwide and across states
- Locate healthcare regulations

Example: Compare Total Restrictions

Industries Affected by Healthcare Regulations





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Web Links

<https://www.quantgov.org/health-regdata>

<https://www.mercatus.org/tags/healthcare>