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The National Economic Impact of Physicians

National Report

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Executive Summary

Physicians are a critical component of the health care system, providing care to patients across a variety of settings and within a multitude of specialties and subspecialties. Through the care provided to their patients, physicians can have a positive and lasting impact on the health of their patients and the community as a whole. However, the breadth of a physician's impact reaches far beyond just the provision of patient care. Physicians also play a vital role in the state and local economies by creating jobs, purchasing goods and services, and supporting state and community public programs through generated tax revenues.

This report focuses on physicians, both doctors of medicine (MDs) and osteopathy (DOs), who are primarily engaged in the practice of medicine (i.e., patient care activities as compared to those who focus on research or teaching). Physicians work in a wide range of practice types/sizes: private or group practices in offices and clinics or within a hospital. A recent American Medical Association (AMA) survey of physicians found that in 2016, the single specialty group accounted for the largest share of physicians (42.8%), while 24.6% practiced in multi-specialty groups, 16.5% were in solo practice and 7.4% were direct hospital employees.[1] Movement toward hospital-owned practices and employment directly by a hospital appears to have slowed since 2014 and the percentage of physicians who either worked in a practice with at least some hospital ownership or were direct hospital employees was 32.8% in both 2014 and 2016. With this in mind, this report focuses on all patient care physicians, regardless of whether they are office- or hospital-based.

Given the rapidly changing health care environment, it is critical to quantify the economic impact physicians have on society. This report provides data that can be used by key health care policymakers, legislators and thought leaders. It also demonstrates how physician practices both ensure the health and well-being of communities as well as support local economies and enable jobs, growth and prosperity.

[1] Kane KC. Updated Data on Physician Practice Arrangements: Physician Ownership Drops Below 50 Percent. Accessed at: https://www.ama-assn.org/sites/default/files/media-browser/public/health-policy/PRP-2016-physician-benchmark-survey.pdf.

This report provides estimates of the total economic impact of patient care physicians in each of the 50 states, the District of Columbia and at the national level, across four vital economic barometers:

- Output,
- Jobs,
- Wages and benefits, and
- State and local tax revenue.[2]

Total economic impact = direct + indirect economic impacts. The ***direct*** impact is the value of the four vital economic barometers that are produced from physicians while ***indirect*** impact includes the same barometers which are generated by the industries that are supported by physicians. The national direct impact was calculated as the sum of the state-level direct impacts. While indirect impacts within a state are limited to effects within its borders, expanding the economic analysis area to the nation includes economic effects that reach into other states. Therefore, the total national economic impacts are larger than the sum of the total state economic impacts.

Additionally, this report provides the economic impact of select comparator industries (i.e., higher education, nursing and community care facilities, legal services and home health), in order to allow for an assessment of the economic impact of patient care physicians relative to these select industries. See state-level reports for economic impacts across three broad specialty groups (i.e., primary care, non-surgical and surgical) as well as 10 specialties selected based on frequency and data availability.

Physician economic impact varies across states and is dependent upon the number of physicians in each state as well as other factors, such as the general economy and the health care environment in particular. As of December 2015, there were 736,873 patient care physicians within the 50 states and the District of Columbia.[3]

[2] While patient care physicians also generate federal tax revenue, the federal revenue is beyond the scope of this analysis.

[3] This count is based on AMA Masterfile data as of December 2015. Based on that data, there were 1,022,483 post-residency MD and DO physicians with a preferred mailing address in one of the 50 states and the District of Columbia. We identified 755,802 physicians as providing patient care and an additional 57,696 as having an unknown type of professional activity (the remainder were either no longer active, or were engaged in other activities such as research or teaching). We imputed professional activity for those physicians for whom it was missing. Through this methodology an additional 36,887 physicians were identified as providing patient care, yielding a total number of 792,689. Of these, 55,816 had a missing state for their office and were excluded from the final analysis. For further detail on methods, see the Appendix.

The overall findings across states and at the national level are as follows:

- **Total Output**: At the state level, the median total output was $18.9B while the mean total output was $32.8B. At the national level, physicians created a total of $2.3T in direct and indirect economic output (i.e., sales revenues) in 2015. On average, each physician supported $3,166,901 in output.

- **Jobs**: At the state level, physicians supported a median of 115,752 total jobs and a mean of 182,370 total jobs (including their own), the total of direct and indirect positions. At the national level, physicians supported 12,575,602 jobs in 2015. On average, each physician supported 17.07 jobs.

- **Wages and Benefits**: At the state level, physicians supported median total wages and benefits of $8.9B and mean total wages and benefits of $16.7B. At the national level, physicians contributed $1,044.9B in direct and indirect wages and benefits for all supported jobs in 2015. On average, each physician supported $1,417,958 in total wages and benefits.

- **State and Local Tax Revenues**: At the state level, physicians supported median total state and local taxes of $646.5 million and mean total state and local taxes of $1,310.8 million. At the national level, physicians supported $92.9B in state and local tax revenues in 2015. On average, each physician supported $126,129 in state and local tax revenues.

Economic Impact Analyses

Economic impact analyses (EIAs) track the reach of revenues, jobs, spending and taxes generated by an activity as they flow through the local economy. EIAs incorporate both direct and indirect benefits.

Direct Benefits

Direct benefits, in the context of the patient care physician "industry", include: 1) medical revenues generated in the course of patient care (i.e., the value of output); 2) jobs created by the physician industry; 3) wages and benefits of physicians and employees who are hired to support the delivery of patient care; and 4) taxes that are paid by physicians and the positions that they create.

Indirect Benefits

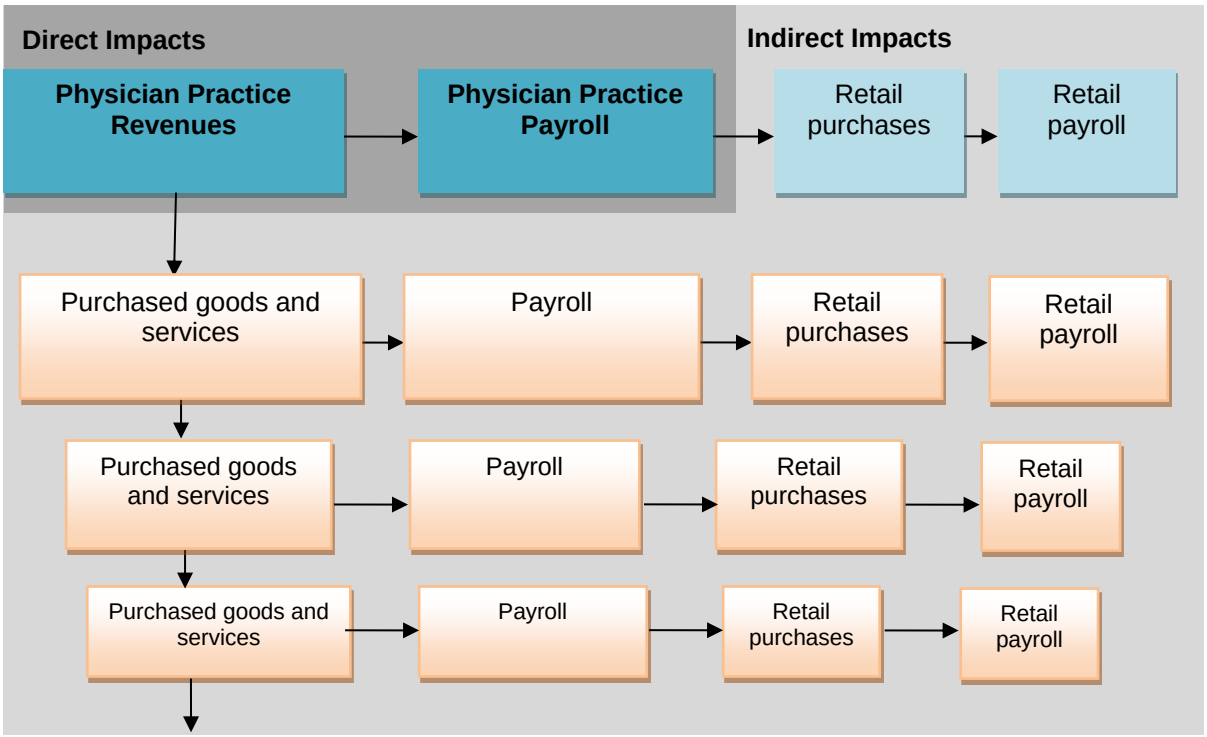
Economic activities supported by patient care physicians outside of their own industry represent the ***indirect*** benefits. These *business-to-business* effects include the supplies/equipment purchased by physicians, practice administrative services, cleaning/property maintenance services, and clinical and laboratory services.

Induced Benefits

Additional indirect benefits (i.e., induced effects)[4] arise when the employees of physicians and vendors, in turn, spend their earnings to support local businesses, which pay their employees and pay taxes (see **Figure 1**). At the state level, with each cycle of spending there is some "leakage" (i.e., some spending goes outside the community, perhaps to a neighboring state, and, as a result, generates no additional local value). This national-level report captures this leakage.

[4] Induced effects are included as a portion of "indirect" effects for brevity.

Figure 1. Economic Multipliers



Economic Impact Multipliers

Both the indirect and direct effects contribute to the "multiplier" used in an EIA. For patient care physicians, the total community impact is a *multiple* of the economic benefit that is generated directly from patient care activities. The multiplier reflects the number of times that each dollar generated in patient care activities circulates through the local economy, supporting local jobs and spending (as described earlier). There are separate multipliers for three of the four vital **direct benefit** economic barometers mentioned earlier.

- An **output multiplier** is used to calculate the total value (i.e., direct and indirect) of output created by an industry. Its value indicates the total economic output generated in an economy for every $1 in direct output.

- A **jobs multiplier** is used to calculate the indirect number of full-time equivalent jobs supported for every $1M in direct output created by an industry. The sum of direct and indirect jobs is the total number of full-time equivalent jobs supported by an industry.

- A **wages and benefits** multiplier is used to calculate the indirect wages and benefits supported for every $1 in direct output. The sum of direct and indirect wages and benefits is the total wages and benefits supported by an industry.

Multipliers are specific to geographic areas and particular industries and their values can vary widely. Multipliers are larger when a dollar earned by a business (e.g., a physician practice) is spent in the community, supporting jobs and other local businesses (who pay their employees, who in turn buy more goods and services, etc.). Multipliers are smaller when business revenues are spent (leaked) outside the community or are spent on goods or services that support fewer local jobs.

In general, multipliers for small community areas will be smaller compared to larger areas as establishments in smaller areas must often look outside of their immediate communities to find inputs. As health care is often considered to be local, health care multipliers tend to be higher than those for many other industries as physicians and their staff tend to live in the community and their services support the local community. Multipliers for a state are smaller than those for the nation as national multipliers include leakage across state lines. See Appendix B for state and national multipliers for the physician industry.

The national multipliers are as follows:

- Output multiplier: 2.840, indicating an additional $1.84 of indirect output is generated for every $1 in direct output (see Appendix A for a discussion of the observed changes in output multipliers from 2011 to 2015).

- Jobs multiplier: 10.991, indicating an additional 10.99 indirect full-time jobs are supported for every $1M in direct output.

- Wages and benefits multiplier: 0.591, indicating an additional $0.59 of indirect wages and benefits is generated for every $1 in direct output.

Data Sources

This study employed three primary data sources: the 2015 AMA Masterfile, 2015 medical practices data from a leading data aggregator, and 2015 IMpact analysis for PLANning (IMPLAN). The AMA Masterfile's number of physicians by state was combined with national per-physician revenue and cost data (which was geographically adjusted by state) and IMPLAN's economic impact multipliers by state, to estimate values for the direct, indirect and total economic impact of the physician industry. See **Figure 2** for an overview of methods and Appendix A for specific methodology.

Figure 2. Overview of Methods

Economic Impact Results

This section provides a snapshot of the economic impact of patient care physicians in the United States (U.S.). Direct and indirect economic benefits for each measure contribute to the overall benefit. Total impacts are presented both at the national level (including total impacts which cross state borders; see **Table 1**), as well as at the state level (limiting the physician impact to only that which occurs within state borders; see **Table 2**).

Table 1: Total Output, Jobs, Wages & Benefits, and State and Local Taxes Supported by Physicians at the National Level, 2015

Economic Measure	Total	Per Physician
Number of Physicians	736,873	-
Output	$2.3 trillion	$3,166,901
Jobs	12,575,602	17.07
Wages & Benefits	$1,044.9 billion	$1,417,958
State and Local Taxes	$92.9 billion	$126,129

Output

In aggregate across all states, physicians generated $821.6B in direct output in 2015. The total output of patient care physicians sums the direct and indirect output generated by the industry. At the national level, physicians generated $2.3T in total output, or an average of $3,166,901 per physician. At the state level, physicians generated a median of $18.9B and a mean of $32.8B in total output.

Jobs

A total of 736,873 patient care physicians were practicing in the U.S. as of December 2015. In aggregate across all states, the number of jobs directly created by patient care physicians (including the number of physicians themselves) was 3,545,399. The total number of jobs supported by patient care physicians at the national level was 12,575,602; the average physician supported 17.07 jobs in the economy, including his or her own. At the state level, physicians supported a median of 115,752 and a mean of 182,370 jobs.

Wages and Benefits

Compensation (i.e., the wages and benefits that are paid to local residents) is also an important measure of an industry's value to the local economy.[5] The value of direct wages and benefits includes compensation paid to physicians and non-physician staff who are on payroll. In 2015, physicians supported $559.6B in direct wages and benefits in aggregate across all states. The total amount of wages and benefits supported by patient care physicians at the national level was $1,044.9B (including the indirect wages and benefits supported by the industry), or an average of $1,417,958 per physician. At the state level, physicians supported a median of $8.9B and a mean of $16.7B in wages and benefits.

State and Local Taxes

The total tax contribution is computed by summing state and local taxation on employee income, proprietor income, indirect business interactions, households, and corporations. Tax revenues are included from the patient care physician industry (direct) and from other affected industries (indirect). These are the "total" tax revenues supported by the industry. Federal taxes are not included in this report.

The state and local taxes incorporated in this study include:

- **Social Insurance taxes**: the state portions of social insurance taxes, including both the employee and employer-paid portions (e.g., retirement plans, workers' compensation, and temporary disability insurance);
- **Personal taxes**: state and local income taxes, gift and estate taxes, motor vehicle taxes/fees, fishing/hunting and other license fees, property taxes, personal property taxes, and other fines/fees or donations;
- **Business taxes**: corporate profits and dividends taxes; and
- **Indirect business taxes**: property taxes, sales taxes, motor vehicle licensing, severance taxes, non-tax payments (e.g., rents and royalties, special assessments, fines, settlements and donations), and other taxes (including business licenses, documentary and stamp taxes).[6]

[5] For ease of reading, "wages and benefits" is used to mean salaries and wages plus other forms of compensation paid to employees. Values include wages and benefits to all support staff, non-physician practitioners and physicians.

[6] Olsen DC. Using Social Accounts to Estimate Tax Impacts. MIG, Inc. Available through IMPLAN.com. (Paper originally given at the Mid-Continent Regional Science Association Meetings in Minneapolis, MN; June 11, 1999).

State and local taxes generated by patient care physicians in 2015 amounted to $92.9B at the national level, or an average of $126,129 per physician. At the state level, physicians supported a median of $646.5M and a mean of $1,310.8M in state and local taxes.

Table 2: Total Output, Jobs, Wages & Benefits, and State and Local Taxes Supported by Physicians in 2015, by State

State	Number of Physicians	Output ($ in billions)	Jobs	Wages & Benefits ($ in millions)	Taxes ($ in millions)
Alabama	8,723	$16.7	101,770	$7,319.5	$565.4
Alaska	1,492	$3.8	18,072	$1,987.1	$79.5
Arizona	13,993	$33.5	198,921	$16,290.4	$1,212.3
Arkansas	4,989	$9.1	56,161	$4,266.7	$343.0
California	89,933	$232.0	1,199,702	$135,267.9	$11,219.4
Colorado	12,840	$31.1	175,246	$14,922.4	$1,141.1
Connecticut	10,443	$24.1	120,759	$13,574.4	$1,108.9
Delaware	2,286	$4.8	25,791	$2,418.0	$164.6
District of Columbia	4,528	$8.0	34,349	$4,406.0	$210.3
Florida	45,399	$113.8	673,683	$50,657.2	$3,677.0
Georgia	19,443	$44.4	262,073	$20,260.5	$1,592.7
Hawaii	3,732	$8.5	47,137	$4,579.7	$412.4
Idaho	2,738	$5.2	33,179	$2,466.6	$168.6
Illinois	30,258	$73.2	396,856	$34,812.5	$3,024.8
Indiana	13,306	$26.4	157,522	$12,836.4	$895.8
Iowa	5,324	$9.8	58,866	$4,859.7	$372.6
Kansas	5,285	$10.4	62,326	$4,969.1	$348.2
Kentucky	8,106	$15.4	94,338	$7,359.2	$557.2
Louisiana	10,062	$19.9	119,515	$8,942.6	$646.5
Maine	3,090	$6.4	39,027	$3,108.2	$269.6
Maryland	17,633	$39.5	213,060	$19,542.0	$1,797.6
Massachusetts	25,111	$58.2	304,387	$35,838.6	$2,242.4
Michigan	23,591	$51.9	305,298	$24,750.7	$1,981.2
Minnesota	13,401	$30.5	171,133	$15,657.2	$1,335.9
Mississippi	4,670	$8.2	51,305	$3,783.7	$313.1
Missouri	13,797	$29.2	173,905	$13,777.1	$1,024.6
Montana	1,856	$3.7	22,780	$1,879.3	$167.7
Nebraska	3,653	$7.0	41,467	$3,513.9	$242.3
Nevada	5,056	$10.9	61,063	$5,868.6	$387.9
New Hampshire	3,614	$8.0	45,708	$4,344.8	$227.0
New Jersey	22,697	$55.4	281,923	$30,887.9	$2,653.8
New Mexico	4,184	$8.0	47,688	$3,887.8	$316.4
New York	60,444	$141.2	688,760	$78,176.0	$7,346.1
North Carolina	20,876	$44.9	265,900	$20,485.9	$1,733.6
North Dakota	1,441	$2.7	14,886	$1,426.3	$68.7
Ohio	28,795	$63.5	372,782	$29,497.6	$2,489.4
Oklahoma	6,915	$13.4	80,751	$6,202.7	$466.1
Oregon	10,411	$22.4	133,511	$12,279.5	$900.1
Pennsylvania	33,984	$77.3	431,713	$38,093.0	$2,955.5
Rhode Island	3,259	$7.4	41,034	$4,016.1	$310.9
South Carolina	9,660	$18.9	115,752	$8,926.2	$735.3

State	Number of Physicians	Output ($ in billions)	Jobs	Wages & Benefits ($ in millions)	Taxes ($ in millions)
South Dakota	1,709	$3.3	19,302	$1,706.7	$85.0
Tennessee	14,096	$29.1	175,831	$13,674.5	$908.1
Texas	51,333	$117.9	670,172	$55,406.4	$3,521.4
Utah	5,489	$12.3	73,065	$5,734.3	$405.6
Vermont	1,538	$3.1	18,214	$1,545.1	$126.7
Virginia	17,758	$37.2	207,525	$18,333.0	$1,416.6
Washington	16,880	$37.1	198,336	$20,233.3	$1,216.7
West Virginia	3,579	$6.3	38,728	$3,123.3	$243.4
Wisconsin	12,598	$25.8	151,072	$13,334.2	$1,179.5
Wyoming	875	$1.5	8,547	$821.6	$43.8

Comparator Industry Analysis

To help frame the relative economic impact of patient care physicians, we also assessed the economic impacts (output, jobs, and wages and benefits) of other industries both within and outside the health care industry:

1. Higher education (e.g., junior college, college, university, and professional schools),
2. Nursing and community care facilities,
3. Legal services, and
4. Home health.

IMPLAN was instrumental as it provides 2015 output, jobs, and wages and benefits data and multipliers for the following industries: junior colleges, colleges, universities, and professional schools (IMPLAN industry code 473), nursing and community care facilities (483), legal services (447), and home health care services (480).

See Appendix C for output, jobs and wages and benefits multipliers for each comparator industry, as well as the total output, jobs and wages and benefits for each comparator industry. Data are presented at the state and national levels.

Table 3: Total National-Level Comparator Industry Economic Impacts

Industry	Output ($ in billions)	Jobs	Wages & Benefits ($ in billions)
Physicians	$2,333.6	12,575,602	$1,044.9
Higher Education	$415.1	2,787,732	$159.9
Nursing/Community Care Facilities	$485.6	4,432,916	$191.0
Legal Services	$724.8	4,141,197	$254.5
Home Health	$225.9	2,629,559	$94.9

Output

Physicians generated a greater total output than the higher education, nursing and community care facilities, legal services and home health industries in each state. The only exception was the legal services industry within the District of Columbia, with a total output of $16.1B compared to $8.0B for physicians. At the national level, physicians supported $2,333.6B in total output. Across comparator industries, total output ranged from $225.9B for home health to $724.8B for legal services.

Jobs

In most states, physicians supported more jobs than the higher education, nursing and community care facilities, legal services or home health industries. In the District of Columbia, the number of jobs supported by the legal services industry was the highest, while in North Dakota, the number of jobs supported by the nursing and community care facilities industry was the highest. At the national level, physicians supported 12,575,602 total jobs. Across comparator industries, total jobs ranged from 2,629,559 for home health to 4,432,916 for nursing and community care facilities.

Wages and Benefits

Physicians supported higher total wages and benefits than all comparator industries across the states, with one exception—the legal services industry in the District of Columbia. This suggests that physicians compensate their employees well, which allows these employees to purchase services from other industries in the state, thereby stimulating their state's economy. At the national level, physicians supported $1,044.9B in wages and benefits. Across comparator industries, total wages and benefits ranged from $94.9B for home health to $254.5B for legal services.

Appendix A. Methodological Overview

Three primary data sources were employed in this study: the 2015 AMA Masterfile, 2015 medical practices data from a leading data aggregator, and 2015 IMPLAN. The AMA Masterfile's number of physicians was combined with the per-physician revenue and cost data and IMPLAN's economic impact multipliers to estimate values for the direct, indirect and total economic impact of the physician industry.

AMA Masterfile

The AMA Masterfile contains current and historical data on all physicians, including members and non-members of the AMA and graduates of foreign medical schools who are in the United States (U.S.) and meet educational standards for recognition as physicians. It includes information on geographic location, as well as physician characteristics such as specialty and major professional activity. Masterfile data as of December 2015 was used for this analysis.

Medical Practices Data

The medical practices data aggregator provides national data on the financial characteristics of physician practices including total medical revenue and total payroll costs per full-time physician equivalent. Data are provided for a number of common specialties, as well as by three broad specialty types (primary care, surgical and non-surgical specialties). The data provides information to evaluate different aspects of medical practice performance and to help make policy decisions about medical practice operations. Data are provided for 2015.

IMPLAN

IMPLAN (IMpact analysis for PLANning) is the input-output economic impact modeling system developed by the Minnesota IMPLAN Group. IMPLAN is used to create models of economies allowing for in-depth examinations of economic impacts. The 2015 IMPLAN system estimates output, employment, and labor income multipliers for each industry, at the state and national level, as well as total tax revenues (state and local) generated using a Social Accounting System. Data are taken from a number of sources including the Bureau of Labor Statistics (BLS), the Bureau of Economic Analyses (BEA) and the U.S. Census Bureau.

1.1 2015 AMA Masterfile

The AMA Masterfile was used to estimate the number of post-residency physicians who provide patient care in each state, in aggregate and by specialty. Each record within the AMA Masterfile corresponds to one physician.

Patient care physicians

As of December 2015, 1,022,483 physicians (excluding residents) had a preferred mailing address in one of the 50 states/DC.

The AMA Masterfile categorizes physicians by major professional activity (MPA), a variable based on physician-provided data on present employment and type of practice (see **Table A-1**). In order to arrive at our final sample for analysis, we first limited the AMA Masterfile data to 755,802 (73.9%) physicians whose MPA is the provision of patient care. These physicians are the population of interest, inclusive of both office- and hospital-based physicians as well as locum tenens physicians. Another 57,696 (5.6%) were identified as "not classified" because the AMA had not received any recent information as to their type of practice and present employment.

Table A-1. 2015 AMA Masterfile Physicians by MPA Description

MPA	N	%
Office Based Practice	634,315	62.0%
Hospital Based Full-Time Physician Staff	119,994	11.7%
Locum Tenens	1,493	0.2%
Administration	13,813	1.4%
Inactive	164,553	16.1%
Medical Teaching	12,772	1.3%
Not Classified	57,696	5.6%
Other	4,773	0.5%
Research	13,074	1.3%
Total	**1,022,483**	**100.0%**

For the 57,696 (5.6%) physicians who did not provide any responses indicating whether or not they provide patient care on a regular basis, we imputed the physician's MPA/the provision of patient care. We assume that a portion of these unclassified physicians provide patient care on a regular basis. Therefore, we would underestimate the portion of physicians providing patient care on a regular basis if we were to exclude all unclassified physicians, and we would overestimate the portion of physicians providing patient care on a regular basis if we were to include all of them. We estimated a binary logit

model using GLM parameterization to model the likelihood of providing patient care (as a binary outcome, either providing or not providing patient care).

After examining the variable response distribution between physicians providing patient care, not providing patient care and unclassified, we decided on a final set of independent variables for inclusion and examined co-linearity between potential variables. Our final model included the following categorical variables: 1) age group, 2) gender, 3) physician is or is not board certified, 4) MD or DO, 5) CBSA level of the preferred address (i.e., Metropolitan or Micropolitan), 6) physician does or does not have an NPI number, 7) physician does or does not have a DEA number, 8) primary specialty, 9) physician is or is not an International Medical Graduate and 10) state of the preferred address is or is not the same as the state of the office. In addition, the following interaction terms were included: 11) age (continuous) * broad specialty, and 12) gender * broad specialty. The resulting model had a C-statistic of 0.892. For the output of the model, we specified the creation of a dataset which included an assigned probability to each physician of whether that physician provides patient care based on his/her available data for the independent variables used in the model. Based on the observed ratio of patient care to non-patient care among physicians with non-missing MPA (78.3 to 21.7), we used this event rate as the predicted probability threshold and categorized physicians with a probability of greater or equal to .783 as providing patient care and physicians with a probability of less than .783 as not providing patient care.

Of the 57,696 physicians with unclassified MPA, 36,887 (63.9%) were imputed as providing patient care, yielding a total number of 792,689 physicians providing patient care. Non-missing state of office location was required for this analysis, as the state is the location of the economic activity. Our final sample consisted of 736,873 physicians with a non-missing state for their office location.

Region

Physicians were classified by state. The AMA Masterfile includes information on office location and preferred professional mailing address, which could be either home or office. Should a physician have an office in one state and reside in another, the office location variable was used because, as stated above, the office is the location of the economic activity.

Specialty

The AMA Masterfile contains physician-reported data on a physician's primary specialty. Using this, physicians were mapped to three broad specialty types (primary care, non-surgical and surgical specialties) based on grouping for these broad specialty types by the medical practices data aggregator (see **Table A-2**). Physicians with missing primary specialty within a state were prorated to

the three broad specialty types in proportion to the number of physicians known to be in those broad specialties in that state.

1.2 2015 Medical Practices Data

The medical practices data aggregator provides physician data at the national level. Reports may be obtained at either the single specialty or the multispecialty level. Data was used to estimate per-physician output (revenue), jobs, and wages and benefits for 2015, by specialty. Only data for single specialty physicians were included in this analysis.

Data are provided for overall practices as well as by legal ownership of a practice (physician owned, hospital/integrated delivery system [IDS] owned or other). There were observed differences in medical revenue between physician-owned and hospital-owned practices, related to accounting differences. For hospital-owned practices, medical revenue is underreported, as some practice revenue is accounted for as hospital revenue, particularly that for ancillary services. Therefore, we calculated a weighted average of medical revenue considering both physician-owned and imputed hospital-owned revenue (see the Variables subsection under this same section for more details). Because data are provided at the national level, output and wages and benefits were geographically adjusted to specific states.

Specialties

Practices that provide information to the medical practices data aggregator record the specialties of their member physicians. Those specialties are then mapped to three broad provider classification groupings: primary care, non-surgical specialist, and surgical specialist (see **Table A-2** for available single specialties and the single specialties that fall under the three broader groups).

Because physician specialty was used to link the medical practices data from a leading data aggregator with AMA data, specialty categories were cross-walked between the two datasets. While the Masterfile data offer flexibility in the creation of aggregate specialties from its 250+ specialty categories, the medical practices data aggregator software offers limited options with set definitions. The medical practices data aggregator specialties, therefore, were the limiting factor in our specialty-to-specialty match-up across files.

In this analysis, we used the high-level categorization of the three broad specialty categories: primary care, non-surgical and surgical specialties. This is a classification scheme defined by the medical practices data aggregator. We mapped AMA specialties to these three broad specialties. **Table A-2** shows which specialties the medical practices data aggregator included in the three broad categories,

as well as the AMA primary specialties we allocated to each of the three in order to best match the medical practices data aggregator definitions.

Table A-2. 2015 AMA Masterfile and Medical Practices Data Aggregator Specialties, by Broad Specialty

Medical Practices Data Aggregator	AMA Masterfile
Primary Care	
Family Medicine (with OB)	Adolescent Medicine (Family Medicine)
Family Medicine (without OB)	Adolescent Medicine (Internal Medicine)
Family Medicine: Ambulatory only (no inpatient work)	Adolescent Medicine (Pediatrics)
Family Medicine: Sports Medicine	Family Medicine
Family Medicine: Urgent Care	General Practice
Geriatrics	Geriatric Medicine (Family Medicine)
Hospice/Palliative Care	Geriatric Medicine (Internal Medicine)
Hospitalist: Family Medicine	Gynecology
Hospitalist: Internal Medicine	Hospice & Palliative Medicine
Hospitalist: Ob/Gyn	Hospice & Palliative Medicine (Family Medicine)
Internal Medicine: General	Hospice & Palliative Medicine (Internal Medicine)
Internal Medicine: Ambulatory only (no inpatient work)	Hospice & Palliative Medicine (Obstetrics & Gynecology)
OB/GYN: General	Hospice & Palliative Medicine (Pediatrics)
OB/GYN: Gynecology (only)	Hospitalist
Pediatrics: General	Internal Medicine
Pediatrics: Adolescent Medicine	Internal Medicine/Family Practice
Pediatrics: Hospitalist	Internal Medicine/Pediatrics
Pediatrics: Hospitalist-Internal Medicine	Obstetrics & Gynecology
Pediatrics: Internal Medicine	Palliative Medicine
Pediatrics: Sports Medicine	Pediatrics
Pediatrics: Urgent Care	Sports Medicine (Family Medicine)
Urgent Care	Sports Medicine (Internal Medicine)
	Sports Medicine (Pediatrics)
	Urgent Care Medicine
Non-surgical	
Allergy/Immunology	Abdominal Radiology
Anesthesiology	Addiction Medicine
Bariatrics (Nonsurgical)	Addiction Psychiatry
Clinical Pharmacology	Adult Cardiothoracic Anesthesiology (Anesthesiology)
Critical Care: Intensivist	Adult Congenital Heart Disease (Internal Medicine)
Dentistry	Advanced Heart Failure and Transplant Cardiology (Internal Medicine)
Dermatology	Aerospace Medicine
Emergency Medicine	Allergy
Endocrinology/Metabolism	Allergy and Immunology
Gastroenterology	Anatomic Pathology

Genetics
Hematology/Oncology
Hematology/Oncology: Oncology (only)
Hyperbaric Medicine/Wound Care
Infectious Disease
Nephrology
Neurology
Occupational Medicine
Orthopaedic (Nonsurgical)
Pathology: Anatomic and Clinical
Pathology: Anatomic
Pathology: Clinical
Physiatry (Physical Medicine and Rehabilitation)
Podiatry: General
Psychiatry: General
Pulmonary Medicine: General
Pulmonary Medicine: Critical Care
Pulmonary Medicine: General and Critical Care
Radiation Oncology
Rheumatology
Sleep Medicine

Nonsurgical Subspecialist

Anesthesiology: Pain Management
Cardiology: Electrophysiology
Cardiology: Invasive
Cardiology: Invasive-Interventional
Cardiology: Noninvasive
Dermatology: Dermatopathology
Gastroenterology: Hepatology
Neurology: Epilepsy/EEG
Neurology: Neuromuscular
Neurology: Stroke Medicine
Ob/Gyn: Gynecological Oncology
Ob/Gyn: Maternal and Fetal Medicine
Ob/Gyn: Reproductive Endocrinology
Ob/Gyn: Urogynecology
Pain Management: Nonanesthesia
Pathology: Anatomic-Autopsy
Pathology: Anatomic-Cytopathology
Pathology: Anatomic-Neuropathology
Pathology: Anatomic-Renal
Pathology: Clinical-Hematopathology
Pathology: Clinical-Transfusion Medicine
Pediatrics: Allergy/Immunology
Pediatrics: Anesthesiology

Anatomic/Clinical Pathology
Anesthesiology
Anesthesiology Critical Care Medicine (Emergency Medicine)
Blood Banking/Transfusion Medicine
Brain Injury Medicine (Neurology)
Brain Injury Medicine (Physical Medicine & Rehabilitation)
Cardiothoracic Radiology
Cardiovascular Disease
Chemical Pathology
Child & Adolescent Psychiatry
Child Abuse Pediatrics
Child Neurology
Clinical & Laboratory Dermatological Immunology
Clinical & Laboratory Immunology (Pediatrics)
Clinical and Laboratory Immunology (Internal Medicine)
Clinical Biochemical Genetics
Clinical Cardiac Electrophysiology
Clinical Cytogenetics
Clinical Genetics
Clinical Informatics (Pathology)
Clinical Informatics (Preventive Medicine)
Clinical Laboratory Immunology (Allergy & Immunology)
Clinical Molecular Genetics
Clinical Neurophysiology
Clinical Pathology
Clinical Pharmacology
Critical Care Medicine (Anesthesiology)
Critical Care Medicine (Emergency Medicine)
Critical Care Medicine (Internal Medicine)
Critical Care Medicine (Obstetrics & Gynecology)
Cytopathology
Dermatology
Dermatopathology (Pathology)
Developmental-Behavioral Pediatrics
Diabetes
Diagnostic Radiology
Emergency Medical Services
Emergency Medicine
Emergency Medicine/Family Medicine
Endocrinology, Diabetes & Metabolism
Epidemiology
Epilepsy (Neurology)
Family Medicine/Preventive Medicine
Forensic Pathology
Forensic Psychiatry

Pediatrics: Bone Marrow Transplant
Pediatrics: Cardiology
Pediatrics: Child Development
Pediatrics: Clinical and Lab Immunology
Pediatrics: Critical Care/Intensivist
Pediatrics: Dermatology
Pediatrics: Emergency Medicine
Pediatrics: Endocrinology
Pediatrics: Gastroenterology
Pediatrics: Genetics
Pediatrics: Hematology/Oncology
Pediatrics: Infectious Disease
Pediatrics: Neonatal Medicine
Pediatrics: Nephrology
Pediatrics: Neurology
Pediatrics: Pulmonology
Pediatrics: Radiology
Pediatrics: Rheumatology
Psychiatry: Child and Adolescent
Psychiatry: Forensic
Psychiatry: Geriatric
Radiology: Interventional
Radiology: Diagnostic
Radiology: Neurological
Radiology: Nuclear Medicine

Gastroenterology
General Preventive Medicine
Geriatric Psychiatry
Gynecologic Oncology
Hematology (Internal Medicine)
Hematology (Pathology)
Hematology/Medical Oncology
Hepatology
Hospice & Palliative Medicine (Anesthesiology)
Hospice & Palliative Medicine (Emergency Medicine)
Hospice & Palliative Medicine (Physical Medicine & Rehabilitation)
Hospice & Palliative Medicine (Psychiatry & Neurology)
Hospice & Palliative Medicine (Radiology)
Immunology
Infectious Disease
Internal Med/Emergency Med/Critical Care Med
Internal Med/Phys Med and Rehabilitation
Internal Med/Psychiatry
Internal Medicine/Anesthesiology
Internal Medicine/Dermatology
Internal Medicine/Emergency Medicine
Internal Medicine/Medical Genetics
Internal Medicine/Neurology
Internal Medicine/Preventive Medicine
Interventional Cardiology
Legal Medicine
Maternal and Fetal Medicine
Medical Biochemical Genetics
Medical Genetics
Medical Management
Medical Microbiology
Medical Oncology
Medical Toxicology (Emergency Medicine)
Medical Toxicology (Pediatrics)
Medical Toxicology (Preventive Medicine)
Molecular Genetic Pathology (Medical Genetics)
Molecular Genetic Pathology (Pathology and Medical Genetics)
Musculoskeletal Oncology
Musculoskeletal Radiology
Neonatal-Perinatal Medicine
Nephrology
Neurodevelopmental Disabilities (Pediatrics)
Neurodevelopmental Disabilities (Psychiatry & Neurology
Neurology
Neurology/Diagnostic Radiology/Neuroradiology

Neurology/Physical Medicine and Rehabilitation
Neuromuscular Medicine (Neurology)
Neuromuscular Medicine (Physical Medicine & Rehabilitation)
Neuropathology
Neuropsychiatry
Neuroradiology
Nuclear Cardiology
Nuclear Medicine
Nuclear Radiology
Nutrition
Obstetrics
Obstetric Anesthesiology (Anesthesiology)
Occupational Medicine
Osteopathic Manipulative Medicine
Pain Management
Pain Medicine
Pain Medicine (Anesthesiology)
Pain Medicine (Neurology)
Pain Medicine (Physical Medicine & Rehabilitation)
Pain Medicine (Psychiatry)
Pediatric Allergy
Pediatric Anesthesiology (Anesthesiology)
Pediatric Cardiology
Pediatric Critical Care Medicine
Pediatric Dermatology
Pediatric Emergency Med (Emergency Med)
Pediatric Emergency Medicine (Pediatrics)
Pediatric Endocrinology
Pediatric Gastroenterology
Pediatric Hematology-Oncology
Pediatric Infectious Disease
Pediatric Nephrology
Pediatric Pathology
Pediatric Pulmonology
Pediatric Radiology
Pediatric Rehabilitation Medicine
Pediatric Rheumatology
Pediatric Transplant Hepatology
Pediatrics/Anesthesiology
Pediatrics/Dermatology
Pediatrics/Emergency Medicine
Pediatrics/Medical Genetics
Pediatrics/Physical Medicine and Rehabilitation
Pediatrics/Psychiatry/Child & Adolescent Psychiatry
Pharmaceutical Medicine

	Phlebology
	Physical Medicine and Rehabilitation
	Procedural Dermatology
	Proctology
	Psychiatry
	Psychiatry/Family Medicine
	Psychiatry/Neurology
	Psychoanalysis
	Psychosomatic Medicine
	Public Health and General Preventive Medicine
	Pulmonary & Critical Care Medicine
	Pulmonary Disease
	Radiation Oncology
	Radiological Physics
	Radiology
	Reproductive Endocrinology and Infertility
	Rheumatology
	Selective Pathology
	Sleep Medicine
	Sleep Medicine (Internal Medicine)
	Sleep Medicine (Otolaryngology)
	Sleep Medicine (Pediatrics)
	Sleep Medicine (Psychiatry & Neurology)
	Spinal Cord Injury Medicine
	Sports Medicine (Emergency Medicine)
	Sports Medicine (Physical Medicine & Rehabilitation)
	Transplant Hepatology (Internal Medicine)
	Undersea & Hyperbaric Medicine (Emergency Medicine)
	Undersea & Hyperbaric Medicine (Preventive Medicine)
	Vascular and Interventional Radiology
	Vascular Medicine
	Vascular Neurology
Surgical	
Ophthalmology	Abdominal Surgery
Orthopaedic Surgery: General	Adult Reconstructive Orthopaedics
Otorhinolaryngology	Colon and Rectal Surgery
Surgery: General	Complex General Surgical Oncology (Surgery)
Urology	Congenital Cardiac Surgery (Thoracic Surgery)
Surgical Subspecialist	Cosmetic Surgery
Dermatology: Mohs Surgery	Craniofacial Surgery
Ophthalmology: Corneal and Refractive Surgery	Dermatologic Surgery
Ophthalmology: Glaucoma	Endovascular Surgical Neuroradiology (Neurological Surgery)
Ophthalmology: Neurology	Endovascular Surgical Neuroradiology (Neurology)
Ophthalmology: Oculoplastic and Reconstructive Surgery	Endovascular Surgical Neuroradiology (Radiology)

Ophthalmology: Retina	Facial Plastic Surgery
Orthopaedic Surgery: Foot and Ankle	Female Pelvic Medicine (Urology)
Orthopaedic Surgery: Hand	Female Pelvic Medicine and Reconstructive Surgery (Obstetrics & Gynecology)
Orthopaedic Surgery: Hip and Joint	Foot and Ankle Orthopaedics
Orthopaedic Surgery: Oncology	General Surgery
Orthopaedic Surgery: Shoulder/Elbow	Hand Surgery
Orthopaedic Surgery: Spine	Hand Surgery (Orthopaedics)
Orthopaedic Surgery: Trauma	Hand Surgery (Plastic Surgery)
Orthopaedic Surgery	Hand Surgery (Surgery)
Pediatrics: Otorhinolaryngology	Head and Neck Surgery
Pediatrics: Surgery	Hospice & Palliative Medicine (Surgery)
Pediatrics: Cardiovascular Surgery	Neurological Surgery
Pediatrics: Neurological Surgery	Neurotology (Otolaryngology)
Pediatrics: Plastic and Reconstruction Surgery	Ophthalmic Plastic and Reconstructive Surgery (Ophthalmology)
Pediatrics: Urology	Ophthalmology
Podiatry: Surgery-Foot and Ankle	Oral & Maxillofacial Surgery
Podiatry: Surgery-Forefoot only	Orthopaedic Surgery
Surgery: Bariatric	Orthopaedic Surgery of the Spine
Surgery: Breast	Orthopaedic Trauma
Surgery: Cardiovascular	Otolaryngology
Surgery: Colon and Rectal	Pediatric Cardiothoracic Surgery
Surgery: Endovascular (Primary)	Pediatric Ophthalmology
Surgery: Neurological	Pediatric Orthopaedics
Surgery: Oncology	Pediatric Otolaryngology
Surgery: Oral	Pediatric Surgery (Neurology)
Surgery: Plastic and Reconstruction	Pediatric Surgery (Surgery)
Surgery: Plastic and Reconstruction-Hand	Pediatric Urology
Surgery: Thoracic (Primary)	Plastic Surgery
Surgery: Transplant	Plastic Surgery within the Head & Neck
Surgery: Transplant-Heart	Plastic Surgery within the Head & Neck (Otolaryngology)
Surgery: Transplant-Heart/Lung	Plastic Surgery within the Head & Neck (Plastic Surgery)
Surgery: Transplant-Kidney	Sports Medicine (Orthopaedic Surgery)
Surgery: Transplant-Liver	Surgical Critical Care (Surgery)
Surgery: Trauma	Surgical Oncology
Surgery: Trauma-Burn	Thoracic Surgery
Surgery: Vascular (Primary)	Transplant Surgery
	Traumatic Surgery
	Urology
	Vascular Surgery

Variables

Variables used for each of the broad specialties included data per physician on output, jobs and wages and benefits. We calculated the following for each of the three broad specialties:

1) **Medical revenue per physician**. The reported medical revenue from the medical practices data aggregator varies between physician-owned practices vs. hospital-owned practices. Medical revenue is underreported among hospital-owned practices due to accounting differences whereby some practice revenue is accounted for as hospital revenue. To address this, we separately assessed physician-owned practice medical revenue and hospital-owned practice medical revenue. We calculated the ratio of mean wages and benefits to mean revenue among physician-owned practices, assuming this ratio is the same as for hospital-owned practices. We made the assumption that compensation is the same for physician-owned vs. hospital-owned practices, assuming resources are mobile and substitutable between the two types of practices. This assumes that the average productivity of resources (proxied by compensation costs per revenue) is the same across similarly-scaled practices, independent of ownership. We then applied the inverse of this physician-owned practice ratio to hospital-owned practice mean wages and benefits in order to impute hospital-owned practice revenue. We used this imputed value of hospital-owned revenue in place of that reported by the medical practices data aggregator. Finally, we calculated a weighted average of mean physician-owned revenue and mean imputed hospital-owned revenue based on respondent Ns. Because practice revenues vary according to geographic variation in price levels and costs of services, we calculated estimates at the national level and adjusted medical revenue using weighted state values for Medicare's 2015 Geographic Adjustment Factor (GAF). The mean medical revenue in a state was calculated as the national weighted mean for medical revenue **x** the weighted state Medicare GAF.

2) **Total jobs per physician** (sum of mean physician, non-physician provider and support staff FTEs). For the non-physician and support staff categories, the medical practices data aggregator reports means that are calculated based only on respondents that have staff in that category. The N shown for each mean reflects that. In particular, there was a much lower N for non-physician provider FTEs relative to support staff FTEs, as most reporting practices did not employ non-physician provider staff. For these two categories, we calculated adjusted mean jobs (inclusive of practices with no staff in that category) using the reported N for physician costs as the total N. In most cases, the reported N for physician costs was slightly higher than the reported N for support staff FTEs. For the most part, this adjustment lowered the mean non-physician provider FTEs and slightly lowered the mean support staff FTEs.

3) **Total wages and benefits per physician** (sum of mean physician, non-physician provider and support staff cost). As with jobs, the mean non-physician provider costs and mean support staff costs per physician that are provided by the medical practices data aggregator are based only on respondents that have staff in that category. We calculated adjusted mean costs for these two categories in a similar fashion as for adjusted mean FTEs. For the most part, this adjustment lowered the mean non-physician provider cost and slightly lowered the mean support staff cost. Because wages and benefits spending varies by local wage levels, we calculated estimates at the national level and adjusted wages and benefits using weighted state values for Medicare's 2015 Wage Index. The mean per-physician wages and benefits in a state was calculated as the national mean for wages and benefits **x** the weighted state wage index.

The mean was used for all variables reported by the medical practices data aggregator. However, means are sensitive to outliers and in cases where the mean was greater than the 90th percentile for a variable, the median was used. The median was used in place of the mean for nonsurgical support staff cost for all practices and hospital-owned practices, and for surgical nonphysician provider cost and support staff cost for all practices and hospital-owned practices.

All needed data points were available for the three broad specialties.

Medical Practices Data Aggregator Geographic Limitation

Physician practice revenues and wages and benefits vary according to geographic variation in price levels and costs of services. However, the medical practices data aggregator does not provide data at the state level; therefore, we calculated specialty-specific estimates at the national level and geographically adjusted revenue and wages and benefits.

Medicare uses three Geographic Practice Cost Indices (GPCIs), physician work (PW), practice expense (PE) and malpractice (MP), weighted at approximately 51%, 45% and 4%, respectively, in 2015, to arrive at the GAF to adjust payments to physicians.[7] Medicare calculates the three GPCIs for payment areas known as Medicare localities. Localities are states and sub-state regions. There are 89 Medicare payment localities which are defined by state boundaries (e.g., Wisconsin), metropolitan statistical areas (MSAs) (e.g., metropolitan St. Louis, MO), portions of an MSA (e.g., Manhattan), or rest-of-state areas that exclude metropolitan areas (e.g., rest of Missouri). Practice revenues were adjusted using Medicare's 2015 GAF. The 2015 GAF is available for January – March 2015 and April

[7] Addendum D Geographic Adjustment Factors (GAFs). CY 2015 PFS Final Rule Addenda. CMS-1612-FC. Available at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/PFS-Federal-Regulation-Notices-Items/CMS-1612-FC.html**.**

– December 2015. A weighted annual 2015 GAF was calculated. The weighted 2015 GAF was used when the locality is at the state level. For localities which are at the sub-state region level, a weighted GAF was calculated for the state based on the underlying county population. A county-level file with 2015 population from the U.S. Census Bureau was used, mapped to a file with the counties included in the 2015 localities from the Centers for Medicare and Medicaid Services (CMS).[8]

Because wages and benefits vary by geographic region, we adjusted national level wages and benefits spending by a state-level wage index incorporating both physician wages and clinical and administrative office staff wages. Medicare provides the 2015 Wage Index for core based statistical areas (CBSAs) for urban (MSAs) and rural areas.[9] A weighted state-level wage index was calculated based on the underlying county population. The 2015 county-level population file was again utilized.

Medical Practices Data Aggregator Limitations

Limitations of the data reported by the medical practices data aggregator include: 1) bias towards larger practices, 2) differences by practice ownership (physician vs. hospital owned), 3) sensitivity to outliers and 4) availability only at the national level. We cannot adjust for the possible data bias towards larger practices. However, we attempted to minimize this bias by including data for all practices with fewer than three physicians instead of relying on the default setting which only provides data for practices with three or more physicians. We corrected for underreporting of revenue by hospital-owned practices by imputing the mean per-physician revenue in hospital-owned practices and using these imputed values rather than the reported means. Because means may be sensitive to outliers, in cases where the mean was greater than the 90th percentile for a variable, the median was used. We also note that 2012 differed from other years in terms of reported physician-owned revenue, likely due to errors in reporting. For example, it appears that one large physician-owned practice underreported their revenue in 2012, resulting in a lower average value in 2012 compared to previous and following years. Geographic adjustment was used to address the limitation that data are only available at the national level.

1.3 2015 IMPLAN

IMPLAN data contain industry-based output, employment, and labor income multipliers, as well as tax data by state and at the national level.

[8] United States Census Bureau. American Fact Finder. Available at: https://factfinder.census.gov/bkmk/table/1.0/en/PEP/2015/PEPANNRES.

[9] FY 2015 Final Rule Wage Index Tables. FY 2015 Wage Index Home Page. Available at: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Wage-Index-Files-Items/FY-2015-Wage-Index-Home-Page.html?DLPage=1&DLEntries=10&DLSort=1&DLSortDir=descending.

Multipliers

Multipliers are specific to a state and to a particular industry. State-level and national 2015 multipliers for "Offices of physicians" (IMPLAN industry code 475) were used. Of note, for the 2012 analysis, 2011 IMPLAN multipliers were used for "Offices of physicians, dentists, and other health practitioners" (IMPLAN industry code 394), a composite industry which was later changed to distinct industries. Related to this, IMPLAN had 440 industries in 2011 which increased to 536 industries by 2015. Upon creation of each model's geographies, the software calculates multipliers for output, employment (based on millions of dollars of output) and labor income (based on dollars of output). Type SAM (Social Accounting Matrix) output multipliers were used to apply to direct revenue. Type SAM multipliers consider the direct, indirect and induced effects where the induced effect is based on information in the Social Account Matrix. Type SAM multipliers tell us how a specific industry responds to an impact on itself (i.e., rounds of indirect and induced purchasing that occur in that industry). Indirect and induced effect multipliers were used to calculate total jobs and total wages and benefits. A jobs multiplier (the sum of indirect and induced effect employment multipliers) was applied to direct revenue in millions of dollars, in order to calculate indirect and induced jobs per million dollars of output. A wages and benefits multiplier (the sum of indirect and induced effect labor income multipliers) was applied to direct revenue, in order to calculate indirect and induced wages and benefits per dollar of output.

We noted an 8.6% increase in the national output multiplier from 2011 to 2015. The average change was 8.2% with a minimum of 1.6% and a maximum of 14.1%. Other health-related industries saw increases, including a 15.9% increase in the national output multiplier for home health services. All state values in the model are forced to sum to U.S. control totals, so a change at the national level will be reflected in all states. The observed increases in health-related national multipliers are consistent with the increase in the growth of health care spending. National health expenditure grew 5.8% in 2015 and accounted for 17.8% of GDP.[10] Physician and clinical services expenditures grew 6.3% in 2015, an acceleration from growth of 4.8% in 2014, and the first time since 2005 that the growth rate exceeded 6.0%. Health care spending accounted for 17.2% of GDP in 2012.[11]

Tax Analyses

Patient care physicians also generate tax revenues at the local and state levels. IMPLAN software estimates the impact of economic activity on state and local tax revenues, including income, sales,

[10] National Health Expenditures 2015 Highlights. Available at: https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/highlights.pdf.

[11] Martin et al. National Health Spending in 2012: Rate of Health Spending Growth Remained Low for the Fourth Consecutive Year. *Health Affairs*. 2014;33:67-77.

and property taxes. Tax impacts were estimated at the state and national levels using a contribution analysis, where existing total direct output provides the initial effects of the analysis.[12] Tax calculations were based on 2015 IMPLAN modeling presented in 2015 dollars, using calculated 2015 direct output.

The total tax contribution is computed by summing taxation on employee income, proprietor income, indirect business interactions, households, and corporations. Tax revenues are included from physician practices and from other affected industries (indirect); i.e., these are the "total" tax revenues supported by the industry.

The state and local taxes incorporated in this study include:

- Social Insurance taxes: the state portions of social insurance taxes, including both the employee and employer-paid portions (e.g., retirement plans, workers' compensation, and temporary disability insurance);
- Personal taxes: state and local income taxes, gift and estate taxes, motor vehicle taxes/fees, fishing/hunting and other license fees, property taxes, personal property taxes, and other fines/fees or donations;
- Business taxes: corporate profits and dividends taxes; and
- Indirect business taxes: property taxes, sales taxes, motor vehicle licensing, severance taxes, non-tax payments (e.g., rents and royalties, special assessments, fines, settlements and donations), and other taxes (including business licensing, documentary and stamp taxes).

While patient care physicians also generate federal tax revenue, the federal tax revenue is beyond the scope of this analysis.

1.4 Data Analysis

The data from the three source datasets were combined and the following measures were calculated by state:

1) Direct impacts of physicians (state-level total medical output, total jobs and total wages and benefits per physician from the medical practices data aggregator **x** counts from the AMA Masterfile)
2) Indirect impacts of physicians

[12] Estimating the Contribution of a Current Industry Using IMPLAN. MIG, Inc. Available at: http://support.implan.com/index.php?option=com_content&view=article&id=351:351&catid=212:contribution-analysis.

   a. Calculated direct output **x** (IMPLAN output multiplier – 1)
   b. (Calculated direct output/$1,000,000) **x** IMPLAN jobs multiplier
   c. Calculated direct output **x** IMPLAN wages and benefits multiplier
3) Total impacts of physicians (direct and indirect impacts summed for output, jobs and wages and benefits);
4) Tax revenues obtained from physicians.

At the state level, direct, indirect and total impacts were calculated in aggregate (as the sum of primary care, non-surgical and surgical broad specialties) as well as for the 10 specialties. Direct impacts by state (sum of primary care, non-surgical and surgical broad specialties) were aggregated to the national level, and then national IMPLAN multipliers were applied to calculate national total impacts. Tax revenues were also calculated at the national and state levels.

Appendix B. Multipliers for the Physician Industry

Table B-1. State and National Output, Jobs, and Wages and Benefits Multipliers

State	Output	Jobs	Wages and Benefits
National	**2.840**	**10.991**	**0.591**
Alabama	1.862	6.662	0.268
Alaska	1.769	5.081	0.259
Arizona	2.190	8.606	0.392
Arkansas	1.818	6.394	0.248
California	2.160	7.133	0.410
Colorado	2.171	7.920	0.394
Connecticut	1.940	5.691	0.356
Delaware	1.851	5.708	0.283
District of Columbia	1.411	2.267	0.187
Florida	2.236	8.943	0.401
Georgia	2.125	8.053	0.369
Hawaii	1.949	6.648	0.308
Idaho	1.855	7.141	0.260
Illinois	2.130	7.289	0.387
Indiana	1.913	6.777	0.284
Iowa	1.811	6.118	0.251
Kansas	1.909	6.755	0.288
Kentucky	1.851	6.676	0.277
Louisiana	1.852	6.636	0.280
Maine	1.959	7.409	0.307
Maryland	1.946	6.333	0.329
Massachusetts	2.018	6.395	0.398
Michigan	2.030	7.495	0.343
Minnesota	2.106	7.356	0.377
Mississippi	1.749	6.129	0.215
Missouri	2.028	7.492	0.337
Montana	1.813	6.783	0.252
Nebraska	1.877	6.410	0.278
Nevada	1.902	6.401	0.286
New Hampshire	1.954	6.921	0.347
New Jersey	2.020	6.301	0.380
New Mexico	1.796	6.143	0.233
New York	1.929	5.458	0.358
North Carolina	2.044	7.528	0.330
North Dakota	1.717	5.125	0.235
Ohio	2.082	7.684	0.352
Oklahoma	1.899	6.705	0.289
Oregon	1.963	7.300	0.329
Pennsylvania	2.066	7.188	0.382
Rhode Island	2.010	6.881	0.350
South Carolina	1.877	6.875	0.274
South Dakota	1.820	6.090	0.247
Tennessee	2.020	7.493	0.365
Texas	2.134	7.665	0.388
Utah	2.105	8.002	0.337

State	Output	Jobs	Wages and Benefits
Vermont	1.842	6.485	0.275
Virginia	1.930	6.317	0.317
Washington	1.974	6.219	0.326
West Virginia	1.717	5.827	0.234
Wisconsin	1.937	6.795	0.298
Wyoming	1.585	4.419	0.170

Appendix C. Comparator Industries

Table C-1. State and National Output Multipliers by Industry

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
National	**2.840**	**2.663**	**2.733**	**2.311**	**2.938**
Alabama	1.862	1.779	1.793	1.683	1.898
Alaska	1.769	1.764	1.751	1.704	1.804
Arizona	2.190	2.025	2.083	1.991	2.251
Arkansas	1.818	1.697	1.785	1.702	1.835
California	2.160	2.017	2.073	1.828	2.173
Colorado	2.171	1.980	2.080	1.977	2.277
Connecticut	1.940	1.786	1.775	1.717	1.987
Delaware	1.851	1.691	1.818	1.534	1.928
District of Columbia	1.411	1.344	1.396	1.264	1.469
Florida	2.236	2.063	2.142	1.984	2.213
Georgia	2.125	1.898	2.051	1.815	2.106
Hawaii	1.949	1.842	1.848	1.700	2.013
Idaho	1.855	1.800	1.820	1.774	1.925
Illinois	2.130	1.920	1.975	1.761	2.157
Indiana	1.913	1.782	1.841	1.681	1.968
Iowa	1.811	1.721	1.738	1.673	1.859
Kansas	1.909	1.753	1.835	1.765	1.975
Kentucky	1.851	1.769	1.777	1.703	1.939
Louisiana	1.852	1.712	1.829	1.670	1.879
Maine	1.959	1.817	1.851	1.772	2.056
Maryland	1.946	1.760	1.865	1.703	1.950
Massachusetts	2.018	1.866	1.935	1.730	2.137
Michigan	2.030	1.872	1.949	1.840	2.115
Minnesota	2.106	1.990	1.959	1.842	2.168
Mississippi	1.749	1.566	1.711	1.630	1.791
Missouri	2.028	1.895	1.931	1.768	2.087
Montana	1.813	1.807	1.788	1.740	1.949
Nebraska	1.877	1.764	1.803	1.669	1.868
Nevada	1.902	1.831	1.856	1.799	1.939
New Hampshire	1.954	1.818	1.855	1.769	2.061
New Jersey	2.020	1.773	1.886	1.834	2.078
New Mexico	1.796	1.726	1.724	1.706	1.881
New York	1.929	1.790	1.824	1.600	1.975
North Carolina	2.044	1.854	1.940	1.820	2.067
North Dakota	1.717	1.686	1.709	1.659	1.709
Ohio	2.082	1.942	2.001	1.869	2.132
Oklahoma	1.899	1.817	1.855	1.804	1.944
Oregon	1.963	1.879	1.885	1.817	2.027
Pennsylvania	2.066	1.927	1.979	1.745	2.168
Rhode Island	2.010	1.784	1.839	1.756	2.096
South Carolina	1.877	1.789	1.795	1.742	1.905
South Dakota	1.820	1.740	1.776	1.677	1.847
Tennessee	2.020	1.865	1.918	1.813	2.078

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
Texas	2.134	1.983	2.101	1.882	2.200
Utah	2.105	1.991	2.036	2.009	2.167
Vermont	1.842	1.742	1.777	1.686	2.021
Virginia	1.930	1.809	1.871	1.713	1.944
Washington	1.974	1.900	1.924	1.639	2.001
West Virginia	1.717	1.642	1.673	1.552	1.829
Wisconsin	1.937	1.827	1.890	1.726	1.990
Wyoming	1.585	1.604	1.580	1.555	1.608

Table C-2. State and National Employment Multipliers by Industry

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
National	**10.991**	**9.505**	**10.147**	**8.022**	**11.693**
Alabama	6.662	5.576	6.008	5.327	6.966
Alaska	5.081	4.481	4.732	4.596	5.360
Arizona	8.606	7.096	7.839	7.272	9.157
Arkansas	6.394	4.937	5.983	5.517	6.624
California	7.133	5.969	6.552	5.126	7.363
Colorado	7.920	6.302	7.277	6.670	8.779
Connecticut	5.691	4.630	4.660	4.300	6.174
Delaware	5.708	4.491	5.389	3.573	6.406
District of Columbia	2.267	1.775	2.131	1.458	2.686
Florida	8.943	7.477	8.306	7.216	8.924
Georgia	8.053	6.268	7.468	5.833	8.066
Hawaii	6.648	5.420	5.811	4.854	7.218
Idaho	7.141	6.194	6.707	6.553	7.800
Illinois	7.289	5.756	6.222	4.976	7.682
Indiana	6.777	5.514	6.150	5.172	7.342
Iowa	6.118	4.979	5.373	5.089	6.637
Kansas	6.755	5.157	6.082	5.742	7.368
Kentucky	6.676	5.475	5.954	5.555	7.425
Louisiana	6.636	5.169	6.261	5.223	6.876
Maine	7.409	6.028	6.454	6.072	8.310
Maryland	6.333	4.908	5.704	4.660	6.500
Massachusetts	6.395	5.286	5.839	4.578	7.366
Michigan	7.495	5.984	6.845	6.213	8.296
Minnesota	7.356	6.173	6.230	5.622	7.911
Mississippi	6.129	4.242	5.660	5.226	6.478
Missouri	7.492	6.178	6.680	5.606	8.074
Montana	6.783	6.027	6.335	6.178	7.921
Nebraska	6.410	5.195	5.747	4.921	6.524
Nevada	6.401	5.680	6.095	5.759	6.721
New Hampshire	6.921	5.763	6.126	5.578	7.871
New Jersey	6.301	4.546	5.439	5.155	6.844
New Mexico	6.143	4.985	5.375	5.492	6.833

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
New York	5.458	4.487	4.800	3.562	5.916
North Carolina	7.528	5.974	6.713	6.031	7.825
North Dakota	5.125	4.302	4.861	4.737	5.137
Ohio	7.684	6.272	6.941	6.202	8.191
Oklahoma	6.705	5.524	6.209	6.038	7.115
Oregon	7.300	6.074	6.543	6.233	7.930
Pennsylvania	7.188	5.966	6.482	5.054	8.066
Rhode Island	6.881	5.185	5.702	5.119	7.688
South Carolina	6.875	5.817	6.140	5.867	7.165
South Dakota	6.090	5.076	5.556	5.060	6.355
Tennessee	7.493	5.997	6.654	5.995	7.999
Texas	7.665	6.370	7.383	6.070	8.228
Utah	8.002	6.822	7.393	7.460	8.578
Vermont	6.485	5.430	5.894	5.301	8.012
Virginia	6.317	5.145	5.777	4.816	6.537
Washington	6.219	5.275	5.743	4.041	6.488
West Virginia	5.827	4.679	5.312	4.573	6.794
Wisconsin	6.795	5.609	6.243	5.271	7.320
Wyoming	4.419	3.950	4.207	4.209	4.594

Table C-3. State and National Wages and Benefits Multipliers by Industry

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
National	**0.591**	**0.493**	**0.533**	**0.421**	**0.609**
Alabama	0.268	0.213	0.233	0.206	0.272
Alaska	0.259	0.230	0.239	0.226	0.264
Arizona	0.392	0.304	0.341	0.318	0.407
Arkansas	0.248	0.182	0.223	0.206	0.246
California	0.410	0.329	0.364	0.290	0.404
Colorado	0.394	0.294	0.344	0.322	0.417
Connecticut	0.356	0.269	0.280	0.262	0.365
Delaware	0.283	0.209	0.258	0.177	0.306
District of Columbia	0.187	0.124	0.168	0.113	0.206
Florida	0.401	0.309	0.354	0.313	0.386
Georgia	0.369	0.264	0.327	0.262	0.353
Hawaii	0.308	0.244	0.262	0.218	0.325
Idaho	0.260	0.216	0.235	0.227	0.278
Illinois	0.387	0.285	0.321	0.256	0.389
Indiana	0.284	0.222	0.252	0.210	0.298
Iowa	0.251	0.195	0.216	0.204	0.262
Kansas	0.288	0.207	0.250	0.236	0.299
Kentucky	0.277	0.217	0.240	0.224	0.299
Louisiana	0.280	0.209	0.258	0.213	0.282
Maine	0.307	0.235	0.257	0.241	0.333
Maryland	0.329	0.237	0.286	0.238	0.322

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
Massachusetts	0.398	0.307	0.352	0.278	0.437
Michigan	0.343	0.260	0.305	0.278	0.364
Minnesota	0.377	0.300	0.313	0.283	0.390
Mississippi	0.215	0.143	0.192	0.176	0.222
Missouri	0.337	0.263	0.291	0.250	0.349
Montana	0.252	0.214	0.228	0.221	0.291
Nebraska	0.278	0.220	0.245	0.209	0.270
Nevada	0.286	0.236	0.256	0.245	0.289
New Hampshire	0.347	0.269	0.298	0.272	0.383
New Jersey	0.380	0.254	0.311	0.304	0.391
New Mexico	0.233	0.180	0.197	0.198	0.253
New York	0.358	0.275	0.304	0.227	0.368
North Carolina	0.330	0.241	0.281	0.254	0.330
North Dakota	0.235	0.203	0.223	0.211	0.229
Ohio	0.352	0.279	0.314	0.281	0.362
Oklahoma	0.289	0.235	0.262	0.254	0.298
Oregon	0.329	0.257	0.280	0.269	0.340
Pennsylvania	0.382	0.302	0.335	0.265	0.409
Rhode Island	0.350	0.242	0.275	0.256	0.373
South Carolina	0.274	0.220	0.238	0.227	0.277
South Dakota	0.247	0.195	0.218	0.198	0.250
Tennessee	0.365	0.280	0.316	0.285	0.379
Texas	0.388	0.309	0.364	0.299	0.404
Utah	0.337	0.277	0.301	0.305	0.350
Vermont	0.275	0.217	0.243	0.217	0.332
Virginia	0.317	0.240	0.281	0.236	0.310
Washington	0.326	0.265	0.292	0.208	0.325
West Virginia	0.234	0.183	0.210	0.179	0.266
Wisconsin	0.298	0.235	0.266	0.225	0.311
Wyoming	0.170	0.150	0.158	0.153	0.171

Table C-4. Total State- and National-Level Output by Industry ($ in millions)

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
National	**$2,333,603.7**	**$415,102.1**	**$485,644.1**	**$724,800.9**	**$225,946.3**
Alabama	$16,673.6	$1,540.5	$4,239.6	$5,332.5	$2,280.3
Alaska	$3,776.4	$174.3	$200.4	$512.1	$189.3
Arizona	$33,528.9	$3,819.5	$5,167.6	$7,423.0	$2,779.7
Arkansas	$9,113.3	$863.6	$2,808.0	$1,967.0	$806.2
California	$231,955.8	$31,231.1	$34,152.9	$78,903.6	$13,939.3
Colorado	$31,110.9	$2,948.3	$5,232.3	$9,236.6	$2,042.1
Connecticut	$24,108.3	$7,228.0	$7,115.2	$6,656.2	$2,119.2
Delaware	$4,791.5	$368.2	$1,165.8	$2,869.5	$397.1
District of Columbia	$7,964.0	$4,694.3	$441.3	$16,108.0	$464.3
Florida	$113,833.5	$10,736.6	$23,549.7	$42,286.1	$13,205.0

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
Georgia	$44,404.3	$7,635.2	$7,446.2	$14,813.2	$4,223.1
Hawaii	$8,518.7	$534.2	$1,098.2	$1,576.3	$542.8
Idaho	$5,177.0	$842.8	$1,202.1	$1,076.2	$731.1
Illinois	$73,243.5	$17,356.5	$15,922.5	$31,232.4	$5,884.2
Indiana	$26,374.0	$5,275.8	$7,937.7	$5,653.5	$2,459.0
Iowa	$9,812.8	$2,493.2	$4,903.2	$2,557.4	$1,105.0
Kansas	$10,385.7	$1,263.6	$4,113.8	$2,347.8	$878.4
Kentucky	$15,359.2	$2,254.5	$4,350.7	$3,914.1	$1,251.3
Louisiana	$19,868.0	$2,549.3	$3,733.7	$7,673.4	$2,971.1
Maine	$6,374.1	$1,261.1	$1,927.2	$1,482.5	$429.1
Maryland	$39,495.8	$6,161.7	$7,552.9	$9,122.1	$3,290.7
Massachusetts	$58,170.2	$24,421.3	$10,785.2	$16,804.5	$5,048.0
Michigan	$51,856.3	$3,995.2	$10,132.9	$11,840.6	$5,498.9
Minnesota	$30,499.6	$4,920.2	$9,013.4	$8,845.9	$2,369.3
Mississippi	$8,230.2	$793.8	$2,388.9	$2,457.0	$1,380.1
Missouri	$29,151.6	$6,604.3	$7,077.5	$9,177.9	$2,381.5
Montana	$3,708.0	$210.3	$968.5	$1,078.1	$253.0
Nebraska	$6,984.5	$1,806.4	$2,857.8	$2,014.6	$498.9
Nevada	$10,895.7	$316.0	$1,355.9	$3,869.8	$801.9
New Hampshire	$7,984.2	$2,416.0	$1,684.4	$1,695.8	$505.6
New Jersey	$55,441.8	$5,382.1	$11,343.6	$17,988.0	$5,123.1
New Mexico	$8,022.1	$297.7	$1,292.5	$1,805.3	$919.7
New York	$141,246.0	$40,978.7	$22,004.5	$70,470.4	$15,310.2
North Carolina	$44,882.6	$8,182.0	$10,602.7	$9,640.7	$4,555.7
North Dakota	$2,660.7	$204.2	$1,374.9	$571.9	$126.7
Ohio	$63,502.0	$7,871.9	$17,311.7	$14,155.5	$7,413.4
Oklahoma	$13,408.2	$1,335.7	$3,426.3	$4,694.0	$1,598.9
Oregon	$22,351.0	$2,289.9	$4,312.0	$4,657.3	$847.2
Pennsylvania	$77,275.7	$29,244.9	$20,043.2	$24,483.6	$6,527.7
Rhode Island	$7,414.9	$2,710.9	$1,936.2	$1,848.4	$517.8
South Carolina	$18,878.4	$2,184.3	$3,951.8	$4,988.9	$1,655.0
South Dakota	$3,305.0	$620.3	$1,112.7	$594.5	$165.9
Tennessee	$29,106.3	$4,634.6	$6,567.7	$6,596.0	$3,844.4
Texas	$117,906.3	$10,916.6	$21,439.4	$43,458.6	$22,421.8
Utah	$12,287.4	$2,780.0	$1,969.4	$3,604.8	$883.1
Vermont	$3,068.0	$1,081.9	$802.0	$742.6	$232.8
Virginia	$37,239.1	$4,520.3	$7,732.6	$11,574.9	$3,030.9
Washington	$37,063.7	$2,890.8	$7,522.0	$9,663.5	$1,831.4
West Virginia	$6,294.8	$641.6	$1,496.2	$1,992.2	$722.7
Wisconsin	$25,776.9	$5,404.2	$7,637.2	$6,002.6	$1,674.5
Wyoming	$1,549.4	$60.7	$328.9	$459.2	$93.1

Table C-5. Total State- and National-Level Jobs by Industry

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
National	**12,575,602**	**2,787,732**	**4,432,916**	**4,141,197**	**2,629,559**
Alabama	101,770	14,214	50,774	36,926	27,270
Alaska	18,072	1,590	2,384	3,568	2,753
Arizona	198,921	29,911	57,372	50,611	38,694
Arkansas	56,161	7,974	36,038	15,224	11,754
California	1,199,702	210,253	345,145	436,197	178,449
Colorado	175,246	22,514	55,554	59,195	28,627
Connecticut	120,759	46,467	66,151	38,100	25,400
Delaware	25,791	2,752	12,503	13,144	5,242
District of Columbia	34,349	34,693	4,663	50,694	8,926
Florida	673,683	86,758	262,049	274,922	179,546
Georgia	262,073	55,686	84,997	91,352	57,650
Hawaii	47,137	4,366	11,471	9,980	8,061
Idaho	33,179	7,891	15,607	9,008	13,335
Illinois	396,856	121,211	166,726	163,750	82,625
Indiana	157,522	44,987	93,685	39,126	33,628
Iowa	58,866	23,369	58,400	18,430	15,259
Kansas	62,326	11,398	50,167	17,824	12,128
Kentucky	94,338	21,965	50,014	29,418	16,531
Louisiana	119,515	20,702	47,231	52,478	41,839
Maine	39,027	10,682	22,799	10,797	6,639
Maryland	213,060	41,792	80,208	54,159	44,880
Massachusetts	304,387	172,587	108,914	90,633	67,081
Michigan	305,298	35,240	116,276	80,324	80,978
Minnesota	171,133	39,299	95,441	51,700	35,573
Mississippi	51,305	6,661	30,588	19,039	17,753
Missouri	173,905	54,330	83,401	57,240	35,081
Montana	22,780	2,122	12,006	8,500	4,380
Nebraska	41,467	15,770	33,924	13,442	6,582
Nevada	61,063	2,541	15,078	25,760	9,853
New Hampshire	45,708	18,529	17,975	11,268	7,105
New Jersey	281,923	35,170	107,295	107,009	71,188
New Mexico	47,688	2,780	15,050	13,502	19,070
New York	688,760	275,982	213,643	325,083	235,815
North Carolina	265,900	62,948	120,637	66,114	70,579
North Dakota	14,886	1,906	16,269	4,237	1,972
Ohio	372,782	64,033	198,218	96,315	111,939
Oklahoma	80,751	11,709	40,905	34,225	24,346
Oregon	133,511	20,235	51,700	33,278	11,739
Pennsylvania	431,713	219,652	212,009	141,118	87,186
Rhode Island	41,034	20,250	19,709	11,786	7,629
South Carolina	115,752	20,189	46,182	35,711	25,027
South Dakota	19,302	5,919	14,088	4,529	2,322
Tennessee	175,831	38,292	71,610	45,439	42,147
Texas	670,172	78,850	233,765	265,407	373,371
Utah	73,065	22,562	23,082	25,965	12,552
Vermont	18,214	9,437	9,167	5,272	3,773

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
Virginia	207,525	35,381	86,731	68,886	45,500
Washington	198,336	22,296	79,195	52,483	21,574
West Virginia	38,728	6,393	18,258	14,441	11,804
Wisconsin	151,072	42,484	89,634	38,067	24,745
Wyoming	8,547	644	3,933	3,596	1,312

Table C-6. Total State- and National-Level Wages and Benefits by Industry ($ in millions)

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
National	**$1,044,854.8**	**$159,937.6**	**$190,952.5**	**$254,495.7**	**$94,875.5**
Alabama	$7,319.5	$559.2	$1,764.0	$1,804.8	$925.8
Alaska	$1,987.1	$56.4	$88.0	$167.6	$77.7
Arizona	$16,290.4	$1,532.8	$2,159.4	$2,786.0	$1,254.8
Arkansas	$4,266.7	$287.7	$1,148.2	$645.0	$335.3
California	$135,267.9	$13,918.3	$15,314.5	$29,080.7	$6,072.3
Colorado	$14,922.4	$1,120.3	$2,277.0	$3,577.0	$1,067.9
Connecticut	$13,574.4	$3,451.3	$3,284.7	$2,314.6	$1,164.9
Delaware	$2,418.0	$157.2	$541.7	$1,124.0	$224.3
District of Columbia	$4,406.0	$2,294.5	$245.4	$7,292.7	$310.8
Florida	$50,657.2	$4,213.0	$9,738.7	$16,349.4	$5,567.2
Georgia	$20,260.5	$3,289.2	$3,004.1	$5,062.8	$1,670.5
Hawaii	$4,579.7	$200.3	$486.0	$533.9	$236.3
Idaho	$2,466.6	$308.0	$495.0	$342.0	$297.7
Illinois	$34,812.5	$7,645.9	$6,625.2	$11,420.8	$2,675.0
Indiana	$12,836.4	$2,120.0	$3,440.1	$1,790.9	$1,124.8
Iowa	$4,859.7	$927.2	$2,072.4	$849.0	$501.0
Kansas	$4,969.1	$435.6	$1,708.9	$760.1	$434.0
Kentucky	$7,359.2	$806.7	$1,845.6	$1,249.7	$661.4
Louisiana	$8,942.6	$996.7	$1,571.1	$2,594.4	$1,263.1
Maine	$3,108.2	$506.6	$808.8	$517.0	$228.7
Maryland	$19,542.0	$2,836.7	$3,459.0	$3,204.8	$1,377.1
Massachusetts	$35,838.6	$11,525.6	$5,304.0	$6,231.1	$3,143.4
Michigan	$24,750.7	$1,502.0	$4,445.3	$4,421.7	$2,571.1
Minnesota	$15,657.2	$1,908.9	$3,710.5	$3,406.7	$1,234.2
Mississippi	$3,783.7	$252.1	$954.5	$778.4	$523.6
Missouri	$13,777.1	$2,644.2	$2,897.0	$3,214.7	$1,161.3
Montana	$1,879.3	$68.1	$407.2	$375.7	$122.4
Nebraska	$3,513.9	$707.0	$1,222.6	$671.1	$204.9
Nevada	$5,868.6	$125.8	$607.9	$1,541.4	$391.8
New Hampshire	$4,344.8	$1,078.2	$768.7	$624.0	$284.6
New Jersey	$30,887.9	$2,276.2	$5,199.3	$6,981.5	$2,668.4
New Mexico	$3,887.8	$93.0	$550.4	$672.0	$442.0
New York	$78,176.0	$19,261.3	$10,781.1	$26,955.4	$8,614.5
North Carolina	$20,485.9	$3,338.1	$4,276.7	$3,326.7	$2,038.0
North Dakota	$1,426.3	$70.7	$644.4	$228.4	$43.5

State	Physicians	Higher Education	Nursing/ Community Care Facilities	Legal Services	Home Health
Ohio	$29,497.6	$3,175.4	$7,344.6	$4,865.2	$3,330.9
Oklahoma	$6,202.7	$488.6	$1,453.8	$1,750.8	$772.5
Oregon	$12,279.5	$844.8	$1,807.6	$1,739.0	$365.1
Pennsylvania	$38,093.0	$13,163.5	$9,245.4	$9,068.5	$3,591.4
Rhode Island	$4,016.1	$1,146.0	$848.3	$601.4	$293.9
South Carolina	$8,926.2	$813.0	$1,646.8	$1,778.4	$726.5
South Dakota	$1,706.7	$211.2	$469.9	$182.2	$65.6
Tennessee	$13,674.5	$1,908.8	$2,845.0	$2,208.0	$1,580.2
Texas	$55,406.4	$4,715.6	$9,287.7	$16,378.3	$10,444.3
Utah	$5,734.3	$1,072.1	$780.1	$1,412.5	$454.0
Vermont	$1,545.1	$433.9	$362.3	$263.9	$138.9
Virginia	$18,333.0	$1,810.0	$3,387.6	$4,114.2	$1,388.2
Washington	$20,233.3	$1,106.9	$3,276.0	$3,023.5	$783.1
West Virginia	$3,123.3	$232.3	$702.2	$621.6	$373.4
Wisconsin	$13,334.2	$2,246.2	$3,190.3	$2,180.0	$767.3
Wyoming	$821.6	$13.6	$146.6	$151.0	$32.5