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The National Economic Impact of Physicians

National Report

PUBLISHED: March 2014

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Executive Summary

Physicians are trusted leaders in 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 health of the community as a whole. However, the breadth of a physician's impact reaches far beyond just the provision of patient care. This can be observed by community and state economic benefits (e.g., job creation, purchase of goods/services, and public program support via tax revenues).

This report focuses on physicians (both doctors of medicine (MDs) and doctors of osteopathy (DOs)) who are primarily engaged in patient care activities (as compared to those who focus on research or teaching, for example). Physicians work in a wide range of practice types/sizes. A 2012 American Medical Association survey of physicians found that 53.2% of physicians were self-employed. While 60.1% worked in practices that were wholly-owned by physicians, less than a quarter (23.4%) worked in practices that were at least partly owned by a hospital and another 5.6% were directly employed by a hospital.[1] These figures, in particular, have increased from a 2007/2008 AMA survey which found 16.3% were either directly employed by a hospital or were employed in a hospital-owned practice. Keeping this range in mind, this report focuses on all patient care physicians, regardless of whether they are office- or hospital-based.[2]

Given the changing health care environment, it is paramount to quantify the economic impact physicians have on society. This report provides key data which may be used by policymakers, legislators and thought leaders in medicine to

[1] Kane CK and Emmons DW. New Data On Physician Practice Arrangements: Private Practice Remains Strong Despite Shifts Toward Hospital Employment. American Medical Association 2013. Accessed at: http://www.ama-assn.org/resources/doc/health-policy/prp-physician-practice-arrangements.pdf

[2] Note that economic impact reports published by the AMA in 2011 included only office-based physicians.

demonstrate how patient care physicians critically support local economies and enable jobs, growth, and prosperity in addition to ensuring the health of the community.

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, measuring four vital economic barometers:

- Output,
- Jobs,
- Wages and benefits, and
- State and local tax revenue.[3]

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, 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 data availability.

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

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 2012, there were 720,421 patient care physicians within the 50 states and the District of Columbia.[4] The overall findings across states and at the national level are as follows:

- **Total Output**: At the state level, the median total output was $12.6B while the mean total output was $22.5B. At the national level, physicians created a total of $1.6T in direct and indirect economic output (i.e., sales revenues) in 2012. On average, each physician supported $2,195,426 in output.
- **Jobs**: At the state level, physicians supported a median of 93,392 total jobs and a mean of 148,980 total jobs (including their own), the total of direct and indirect positions. At the national level, physicians supported 9,968,342 jobs in 2012. On average, each physician supported 13.84 jobs.
- **Wages and Benefits:** At the state level, physicians supported median total wages and benefits of $7.4B and mean total wages and benefits of $12.7B. At the national level, physicians contributed $775.5B in direct and indirect wages and benefits for all supported jobs in 2012. On average, each physician supported $1,076,462 in total wages and benefits.
- **State and Local Tax Revenues**: At the state level, physicians supported median total state and local taxes of $440.4 million and mean total state and local taxes of $938.3 million. At the national level, physicians supported $65.2B in local and state tax revenues in 2012. On average, each physician supported $90,449 in local and state tax revenues.

[4] This count is based on AMA Masterfile data as of December 2012. Based on that data, there were 960,076 post-residency MD and DO physicians with a preferred mailing address in one of the 50 states and the District of Columbia. We identified 710,856 physicians as providing patient care and an additional 61,001 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 52,050 physicians were identified as providing patient care, yielding a total number of 762,906. Of these, 42,485 had a missing state for their office and were excluded from the final analysis. For further detail on methods, see Appendix A.

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. EIA's 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) the taxes that are paid by physicians and the positions that they create.

Indirect Benefits

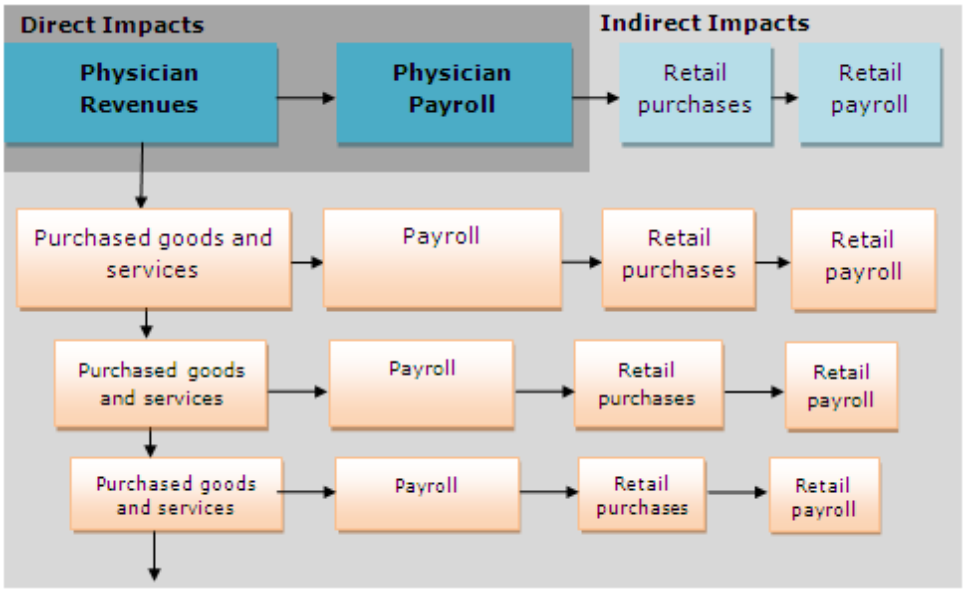
Economic activities supported by patient care physicians outside of their own industry represent the ***indirect*** benefits. These *business-to-business* effects include the supplies/equipment purchased by physicians, practice administrative services, cleaning/property maintenance services, and clinical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

Induced Effects

Additional indirect benefits (i.e., induced effects)[5] 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.

[5] 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 (leak) 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-level multipliers.

The national multipliers are as follows:

- Output multiplier: 2.616, indicating an additional $1.62 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 2010 to 2011).
- Jobs multiplier: 10.971, indicating an additional 10.97 indirect full time jobs are supported for every $1M in direct output.
- Wages and benefits multiplier: 0.532, indicating an additional $0.53 of indirect wages and benefits is generated for every $1 in direct output.

DATA SOURCES

This study employed three primary data sources: the 2012 AMA Masterfile, the 2012 MGMA Cost Survey, and 2011 IMPLAN. The Masterfile's number of physicians by

state was combined with the MGMA's national per-physician revenue and cost data (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 U.S. patient care physicians. 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, 2012

Economic Measure	Total	Per Physician
Number of Physicians	720,421	-
Output	$1.6 trillion	$2,195,426
Jobs	9,968,342	13.84
Wages & Benefits	$775.5 billion	$1,076,462
State and Local Taxes	$65.2 billion	$90,449

OUTPUT

In aggregate across all states, physicians generated $604.5B in direct output in 2012 (See Appendix A for a discussion of the observed changes in medical revenue from 2009 to 2012). The total output of patient care physicians sums the direct and indirect output generated by the industry. At the national level, physicians generated $1.6T in total output, or an average of $2,195,426 per physician. At the state level, physicians generated a median of $12.6B and a mean of $22.5B in total output.

JOBS

A total of 720,421 patient care physicians were practicing in the U.S. as of December 2012. In aggregate across all states, the number of jobs directly created by patient care physicians (including the number of physicians themselves) was 3,336,077. The total number of jobs supported by patient care physicians at the national level was

9,968,342; the average physician supported 13.84 jobs in the economy, including his or her own. At the state level, physicians supported a median of 93,392 and a mean of 148,980 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.[6] The value of direct wages and benefits includes compensation paid to physicians and non-physician staff who are on payroll. In 2012, physicians supported $454.1B 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 $775.5B (including the indirect wages and benefits supported by the industry), or an average of $1,076,462 per physician. At the state level, physicians supported a median of $7.4B and a mean of $12.7B 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 Security taxes: the state portions of Social Security taxes, both the employee and employer paid portions;
- Personal taxes: state and local income taxes, gift and estate taxes, motor vehicles taxes/fees, fishing/hunting and other license fees, property taxes, personal property taxes, and other fines/fees or donations;

[6] For ease of reading, "wages and benefits" is used to mean salaries and wages plus other forms of compensation paid to employees, e.g., benefits, for the remainder of this report. Values include wages and benefits to all support staff, non-physician practitioners and physicians.

- 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).[7]

State and local taxes generated by patient care physicians in 2012 amounted to $65.2B at the national level, or an average of $90,449 per physician. At the state level, physicians supported a median of $440.4M and a mean of $938.3M in state and local taxes.

Table 2: Total Output, Jobs, Wages & Benefits, and State and Local Taxes Supported by Physicians in 2012, by State

State	Number of Physicians	Output ($ in billions)	Jobs	Wages & Benefits ($ in millions)	Taxes ($ in millions)
Alabama	8,773	$11.2	83,095	$6,656.5	$404.9
Alaska	1,559	$2.0	12,515	$1,244.0	$74.5
Arizona	13,377	$21.5	149,844	$11,907.8	$847.4
Arkansas	5,135	$6.3	47,385	$3,768.6	$234.2
California	85,943	$162.6	983,990	$88,071.7	$7,804.6
Colorado	12,263	$20.1	132,971	$11,166.7	$793.2
Connecticut	10,209	$16.6	101,472	$9,731.3	$763.7
Delaware	2,223	$3.2	21,718	$1,917.8	$131.3
District Of Columbia	4,405	$5.6	29,102	$3,735.6	$301.3
Florida	43,111	$76.4	528,732	$40,213.4	$2,326.0
Georgia	19,021	$29.7	205,869	$16,633.6	$1,089.6
Hawaii	3,562	$5.3	34,586	$3,020.5	$206.1
Idaho	2,708	$3.6	27,095	$2,086.6	$132.7
Illinois	29,617	$50.9	326,456	$27,907.2	$2,068.3
Indiana	13,298	$18.2	132,657	$10,564.8	$730.6
Iowa	5,820	$7.1	53,962	$4,276.8	$281.4
Kansas	5,407	$7.2	51,988	$4,110.9	$290.5
Kentucky	8,817	$11.5	85,137	$6,790.5	$440.4

[7] 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	Number of Physicians	Output ($ in billions)	Jobs	Wages & Benefits ($ in millions)	Taxes ($ in millions)
Louisiana	9,804	$13.2	93,974	$7,687.4	$461.2
Maine	3,706	$5.1	37,237	$2,974.8	$213.0
Maryland	17,253	$28.5	179,511	$16,301.7	$1,368.7
Massachusetts	23,815	$39.5	242,129	$22,830.1	$1,844.3
Michigan	23,519	$37.0	259,537	$20,717.9	$1,419.0
Minnesota	13,429	$21.0	143,356	$11,957.8	$913.4
Mississippi	4,917	$6.1	45,468	$3,607.7	$221.6
Missouri	13,735	$20.3	143,424	$11,525.0	$784.7
Montana	2,140	$2.8	20,988	$1,585.7	$111.0
Nebraska	3,671	$4.8	35,539	$2,844.6	$172.9
Nevada	4,723	$7.0	46,704	$4,035.1	$228.5
New Hampshire	3,628	$5.3	36,216	$3,101.5	$188.2
New Jersey	22,374	$39.0	234,906	$22,066.5	$1,729.6
New Mexico	4,188	$5.5	39,385	$3,240.1	$191.2
New York	58,443	$98.9	571,593	$57,470.0	$5,650.0
North Carolina	20,247	$29.4	210,311	$16,770.6	$1,189.9
North Dakota	1,560	$1.8	13,038	$1,127.8	$88.6
Ohio	27,766	$43.4	306,091	$24,202.7	$1,858.7
Oklahoma	6,931	$9.0	66,448	$5,205.9	$326.0
Oregon	9,953	$14.8	105,434	$8,570.3	$675.4
Pennsylvania	33,347	$53.0	355,013	$29,861.8	$2,236.7
Rhode Island	3,101	$4.8	32,117	$2,824.7	$196.0
South Carolina	9,354	$12.6	93,392	$7,389.7	$412.1
South Dakota	1,733	$2.1	15,846	$1,262.9	$64.4
Tennessee	14,026	$20.1	143,229	$11,701.4	$618.8
Texas	48,314	$78.6	522,619	$43,047.3	$2,542.2
Utah	5,205	$8.3	58,586	$4,419.0	$309.7
Vermont	1,778	$2.4	17,412	$1,415.3	$93.3
Virginia	17,888	$26.2	174,242	$15,247.7	$1,070.9
Washington	16,400	$26.1	167,923	$14,790.4	$762.5
West Virginia	3,862	$4.3	32,989	$2,704.3	$165.5
Wisconsin	13,376	$18.8	136,910	$11,109.0	$794.3
Wyoming	987	$1.2	7,837	$698.9	$31.3

Comparator Industry Analysis

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

1. Higher education (junior college, university, and professional schools),
2. Nursing home and residential care facilities,
4. Legal services, and
5. Home health.

IMPLAN was instrumental as it provides 2011 output, jobs, and wages and benefits data and multipliers for the following industries: Private junior colleges, colleges, universities, and professional schools (IMPLAN industry code 392), Nursing and residential care facilities (398), Legal services (367), and Home health care services (395).

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)
Patient Care physicians	$1,581.6	9,968,342	$775.5
Higher Education	$387.9	3,267,875	$147.1
Nursing Home/ Residential Care Facilities	$491.2	5,283,484	$200.6
Legal Services	$583.1	3,843,986	$206.9
Home Health	$180.8	2,173,800	$75.2

Output

Physicians generated a greater total output than the higher education, nursing home, legal and home health industries in each state. The only exception was the legal industry within the District of Columbia, with a total output of $15.2B

compared to $5.6B for physicians. At the national level, physicians supported $1,581.6B in total output. Across comparator industries, total output ranged from $180.8B for home health to $583.1B for legal services.

Jobs

In most states, physicians supported more jobs than the higher education, nursing home, legal or home health industries. In DC, the number of jobs supported by the legal industry was the highest, while in a few states, the number of jobs supported by the nursing home industry was the highest. At the national level, physicians supported 9,968,342 total jobs. Across comparator industries, total jobs ranged from 2,173,800 for home health to 5,283,484 for nursing homes.

Wages and Benefits

Physicians supported higher total wages and benefits than each of the comparator industries across the states, with one exception; the legal industry in the District of Columbia. This suggests that physicians compensate their employees well, who in turn are able to purchase services from other industries in the state, and therefore stimulate their state economy. At the national level, physicians supported $775.5B in wages and benefits. Across comparator industries, total wages and benefits ranged from $75.2B for home health to $206.9B for legal services.

Appendix A. Methodological Overview

Three primary data sources were employed in this study: the 2012 AMA Masterfile, the 2012 MGMA Cost Survey, and 2011 IMPLAN. The Masterfile's number of physicians was combined with the MGMA's 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 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 2012 was used for this analysis**.

MGMA's Cost Survey

The MGMA's Cost Survey report 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). **Data are provided for 2012**. The data provides information to evaluate different aspects of medical practice performance and to help make policy decisions about medical practice operations. The Cost Survey represents data from more than 2,000 MGMA member medical groups representing more than 46,000 providers and is the largest provider population of any cost survey in the United States.

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 2011 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.

I. 2012 AMA Masterfile

The AMA Physician 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 Masterfile corresponds to one physician.

Patient care physicians

As of December 2012, 960,076 physicians (excluding residents) had a preferred mailing address in one of the 50 states/DC.

The Masterfile categorizes physicians by major professional activity (MPA), a variable based on physician-provided data on present employment and type of practice. In order to arrive at our final sample for analysis, we first limited the Masterfile data to 710,856 (74.0%) physicians whose MPA is the provision of patient care.[8] These physicians are the population of interest, inclusive of both office- and hospital-based physicians as well as locum tenens physicians. Another 61,001 (6.4%) were identified as "not classified" because the AMA had not received any recent information as to their type of practice and present employment.

[8] Note that the prior national and state reports, on "The Economic Impact of Office-Based Physicians" in 2009, and last updated April 2011, focused only on office-based and locum tenens physicians.

Table A-1: 2012 AMA Masterfile Physicians by MPA Description

MPA	N	%
Hospital Based Full-Time Physician Staff	86,607	9.0%
Office-Based Practice	622,840	64.9%
Locum Tenens	1,409	0.1%
Administration	14,004	1.5%
Inactive	146,113	15.2%
Medical Teaching	9,868	1.0%
Not Classified	61,001	6.4%
Other	4,690	0.5%
Research	13,544	1.4%
Total	**960,076**	**100.0%**

For the 61,001 (6.4%) 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 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 to the following interaction terms: 11) age (continuous) * broad specialty, and 12)

gender * broad specialty. The resulting model had a *c* statistic of 0.915. For the output of the model, we specified the creation of a dataset which includes 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 (79.1 to 20.9), we used this event rate as the predicted probability threshold and categorized physicians with a probability of greater or equal to .791 as providing patient care and physicians with a probability of less than .791 as not providing patient care.

Of the 61,001 physicians with unclassified MPA, 52,050 (85.3%) were imputed as providing patient care, yielding a total number of 762,906 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 720,421 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 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). Physicians with missing primary specialty within a state were prorated to the three broad specialties in proportion to the number of physicians known to be in those broad specialties in that state.

II. 2012 MGMA Cost Survey

MGMA provides physician data at the national level. Reports may be obtained at either the single specialty or the multispecialty level. MGMA data was used to estimate per-physician output (revenue), jobs, and wages and benefits for 2012, 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 in the MGMA Cost Survey 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 section for more details). Because MGMA data are provided at the national level, output and wages and benefits were geographically adjusted to specific states.

MGMA Specialties

Practices that respond to the MGMA survey record the specialties of their member physicians. Those specialties are then mapped to 110 specialty categories. Specialties that do not fall into the 110 categories are listed as "Other single specialty." However, no specific data are provided for this Other category, as the specialties included may be heterogeneous (combined data may not be meaningful). At the single specialty level, more granular reports may be obtained for 34 individual specialties (data at the individual specialty level are only reported where 10 or more practices of a specialty provide a survey response). Data on single specialties are also reported into 3 broader groupings: primary care, non-surgical and surgical specialties (See Table A-2 for available single specialties and the single specialties that fall under the 3 broader groups). The "Other single specialty" does not feed into any of these 3 groups.

Because physician specialty was used to link MGMA data 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 200+ specialty categories, MGMA data software offers limited options with set definitions. MGMA 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. Data for these three broad specialties were aggregated to estimate total physician impacts. The three broad specialty categorization is a classification scheme defined by MGMA. We mapped AMA specialties to the three broad specialties following MGMA definitions. Table A-2 shows which specialties MGMA 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 MGMA definitions.

Table A-2: AMA Masterfile and MGMA Specialties, by Broad Specialty

MGMA	AMA
Primary care	
Family Medicine: Sports Medicine	Adolescent Medicine (Family Medicine)
Family Medicine: Urgent care	Adolescent Medicine (Internal Medicine)
Family Medicine: with Obstetrics	Adolescent Medicine (Pediatrics)
Family Medicine: without Obstetrics	Family Medicine
Geriatrics	General Practice
Internal Medicine: General	Geriatric Medicine (Family Medicine)
Internal Medicine: Pediatrics	Geriatric Medicine (Internal Medicine)
Pediatrics: Adolescent Medicine	Hospice & Palliative Medicine (Family Medicine)
Pediatrics: General	Hospice & Palliative Medicine (Internal Medicine)
	Adolescent Medicine (Family Medicine)
	Adolescent Medicine (Internal Medicine)
Non-surgical	
Allergy/Immunology	Advanced Heart Failure And Transplant Cardiology (Internal Medicine)
Cardiology: Electrophysiology	Clinical & Laboratory Immunology (Pediatrics)
Cardiology: Invasive	Clinical And Laboratory Immunology (Internal Medicine)
Cardiology: Invasive/Interventional	Critical Care Medicine (Internal Medicine)
Cardiology: Noninvasive	Hematology (Internal Medicine)
Critical Care: Intensivist	Sleep Medicine (Internal Medicine)
Dentistry	Sleep Medicine (Otolaryngology)
Dermatology	Sleep Medicine (Pediatrics)

Emergency Medicine	Sports Medicine (Emergency Medicine)
Endocrinology/Metabolism	Transplant Hepatology (Internal Medicine)
Gastroenterology	Abdominal Radiology
Gastroenterology: Hepatology	Addiction Psychiatry
Genetics	Allergy
Hematology/Oncology	Allergy And Immunology
Hematology/Oncology: Oncology (only)	Anatomic Pathology
Infectious Disease	Anatomic/Clinical Pathology
Internal Medicine: Hospitalist	Blood Banking/Transfusion Medicine
Nephrology	Cardiothoracic Radiology
Neurology	Cardiovascular Disease
OB/GYN: Maternal and Fetal Medicine	Chemical Pathology
OB/GYN: Reproductive Endocrinology	Child & Adolescent Psychiatry
Occupational Medicine	Child Neurology
Orthopedics: Nonsurgical	Clinical Biochemical Genetics
Pathology: Anatomic	Clinical Cardiac Electrophysiology
Pathology: Anatomic and Clinical	Clinical Cytogenetics
Pathology: Clinical	Clinical Genetics
Pediatrics: Allergy/Immunology	Clinical Laboratory Immunology (Allergy & Immunology)
Pediatrics: Cardiology	Clinical Molecular Genetics
Pediatrics: Child Development	Clinical Neurophysiology
Pediatrics: Clinical and Lab Immunology	Clinical Pathology
Pediatrics: Critical Care Intensivist	Cytopathology
Pediatrics: Emergency Medicine	Dermatology
Pediatrics: Endocrinology	Dermatopathology (Pathology)
Pediatrics: Gastroenterology	Diabetes
Pediatrics: Genetics	Diagnostic Radiology
Pediatrics: Hematology/Oncology	Emergency Medical Services
Pediatrics: Hospitalist	Emergency Medicine
Pediatrics: Infectious Disease	Endocrinology, Diabetes & Metabolism
Pediatrics: Neonatal Medicine	Epilepsy (Neurology)
Pediatrics: Nephrology	Forensic Psychiatry
Pediatrics: Neurology	Gastroenterology
Pediatrics: Pulmonology	Geriatric Psychiatry
Pediatrics: Rheumatology	Hematology (Pathology)
Physiatry (Physical Medicine and Rehabilitation)	Hematology/Oncology
Podiatry: General	Hepatology
Psychiatry: Child and Adolescent	Hospitalist
Psychiatry: Forensic	Immunology
Psychiatry: General	Infectious Disease
Psychiatry: Geriatric	Interventional Cardiology
Pulmonary Medicine: General	Maternal And Fetal Medicine
Pulmonary Medicine: Critical Care	Medical Biochemical Genetics
Radiation Oncology	Medical Genetics
Radiology: Diagnostic-Invasive	Medical Oncology
Radiology: Diagnostic-Noninvasive	Medical Toxicology (Emergency Medicine)
Radiology: Nuclear Medicine	Medical Toxicology (Pediatrics)
Rheumatology	Molecular Genetic Pathology (Medical Genetics)
Sleep Medicine	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
	Neuromuscular Medicine (Neurology)
	Neuromuscular Medicine (Physical Medicine & Rehabilitation)
	Neuropathology
	Neuropsychiatry
	Neuroradiology
	Nuclear Cardiology
	Nuclear Radiology
	Nutrition
	Occupational Medicine
	Osteopathic Manipulative Medicine
	Pain Management
	Pain Medicine
	Pediatric Allergy
	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 Pathology
	Pediatric Pulmonology
	Pediatric Radiology
	Pediatric Rehabilitation Medicine
	Pediatric Rheumatology
	Pediatric Transplant Hepatology
	Physical Medicine And Rehabilitation
	Procedural Dermatology
	Psychiatry
	Psychiatry/Neurology
	Psychoanalysis
	Psychosomatic Medicine
	Pulmonary & Critical Care Medicine
	Pulmonary Disease
	Radiation Oncology
	Radiology
	Reproductive Endocrinology And Infertility
	Rheumatology
	Selective Pathology

	Sleep Medicine
	Sleep Medicine (Psychiatry & Neurology)
	Undersea & Hyperbaric Medicine (Emergency Medicine)
	Vascular And Interventional Radiology
	Vascular Neurology
	Critical Care Medicine (Emergency Medicine)
	Hospice & Palliative Medicine (Emergency Medicine)
	Hospice & Palliative Medicine (Physical Medicine & Rehabilitation)
	Hospice & Palliative Medicine (Psychiatry & Neurology)
	Hospice & Palliative Medicine (Radiology)
	Pain Medicine (Neurology)
	Pain Medicine (Physical Medicine & Rehabilitation)
	Pain Medicine (Psychiatry)
	Spinal Cord Injury Medicine
	Sports Medicine (Physical Medicine & Rehabilitation)
	Endovascular Surgical Neuroradiology (Neurology)
	Endovascular Surgical Neuroradiology (Radiology)
	Pediatric Nephrology
	Child Abuse Pediatrics
	Emergency Medicine/Family Medicine
	Family Medicine/Preventive Medicine
	Internal Med/Emergency Med/Critical Care Med
	Internal Med/Phys Med And Rehabilitation
	Internal Med/Psychiatry
	Internal Medicine/Dermatology
	Internal Medicine/Emergency Medicine
	Internal Medicine/Medical Genetics
	Internal Medicine/Neurology
	Internal Medicine/Preventive Medicine
	Medical Toxicology (Preventive Medicine)
	Pediatrics/Dermatology
	Pediatrics/Medical Genetics
	Pediatrics/Physical Medicine And Rehabilitation
	Psychiatry/Family Medicine
	Undersea & Hyperbaric Medicine (Preventive Medicine)
	Addiction Medicine
	Aerospace Medicine
	Clinical Pharmacology
	Legal Medicine
	Medical Management
	Medical Microbiology
	Nuclear Medicine
	Pediatrics/Emergency Medicine
	Pediatrics/Psychiatry/Child & Adolescent Psychiatry
	Pharmaceutical Medicine
	Phlebology
	Vascular Medicine
	Developmental-Behavioral Pediatrics
	Epidemiology

	Hospice & Palliative Medicine
	Palliative Medicine
	General Preventive Medicine
	Public Health And General Preventive Medicine
	Forensic Pathology
Surgical	
Anesthesiology	Critical Care Medicine (Anesthesiology)
Anesthesiology: Pain Management	Critical Care Medicine (Obstetrics & Gynecology)
Anesthesiology: Pediatric	Foot And Ankle Orthopaedics
Dermatology: Mohs Surgery	Hand Surgery (Orthopaedics)
OB/GYN: Gynecology (Only)	Hospice & Palliative Medicine (Anesthesiology)
OB/GYN: Gynecological Oncology	Hospice & Palliative Medicine (Obstetrics & Gynecology)
Obstetrics/Gynecology: General	Hospice & Palliative Medicine (Surgery)
Ophthalmology	Orthopaedic Trauma
Ophthalmology: Pediatric	Pain Medicine (Anesthesiology)
Ophthalmology: Retina	Pediatric Orthopaedics
Orthopedic Surgery: General	Sports Medicine (Orthopaedic Surgery)
Orthopedic Surgery: Foot and Ankle	Abdominal Surgery
Orthopedic Surgery: Hand	Adult Cardiothoracic Anesthesiology (Anesthesiology)
Orthopedic Surgery: Hip and Joint	Adult Reconstructive Orthopaedics
Orthopedic Surgery: Oncology	Anesthesiology
Orthopedic Surgery: Pediatric	Colon And Rectal Surgery
Orthopedic Surgery: Spine	Complex General Surgical Oncology (Surgery)
Orthopedic Surgery: Sports Medicine	Congenital Cardiac Surgery (Thoracic Surgery)
Orthopedic Surgery: Trauma	Cosmetic Surgery
Otorhinolaryngology	Craniofacial Surgery
Otorhinolaryngology: Pediatric	Dermatologic Surgery
Podiatry: Surgical Foot and Ankle	Endovascular Surgical Neuroradiology (Neurological Surgery)
Podiatry: Surgical Forefoot only	Facial Plastic Surgery
Surgery: Cardiovascular	Female Pelvic Medicine And Reconstructive Surgery (Obstetrics & Gynecology
Surgery: Cardiovascular Pediatric	General Surgery
Surgery: Colon and Rectal	Gynecological Oncology
Surgery: Endovascular (Primary)	Gynecology
Surgery: General	Hand Surgery
Surgery: Neurological	Hand Surgery (Plastic Surgery)
Surgery: Oncology	Hand Surgery (Surgery)
Surgery: Oral	Head And Neck Surgery
Surgery: Pediatric	Neurological Surgery
Surgery: Plastic and Reconstruction	Obstetric Anesthesiology (Anesthesiology)
Surgery: Plastic and Reconstruction - Hand	Obstetrics
Surgery: Plastic and Reconstruction - Pediatric	Obstetrics & Gynecology
Surgery: Thoracic (Primary)	Ophthalmic Plastic And Reconstructive Surgery (Ophthalmology)
Surgery: Transplant	Ophthalmology
Surgery: Trauma	Oral & Maxillofacial Surgery
Surgery: Trauma - Burn	Orthopaedic Surgery

Surgery: Vascular (Primary) Urology Urology: Pediatric	Orthopaedic Surgery Of The Spine Otolaryngology Pediatric Anesthesiology (Anesthesiology) Pediatric Cardiothoracic Surgery Pediatric Ophthalmology Pediatric Otolaryngology Pediatric Surgery (Neurology) Pediatric Surgery (Surgery) Pediatric Urology Plastic Surgery Plastic Surgery Within The Head & Neck Plastic Surgery Within The Head & Neck (Otolaryngology) Plastic Surgery Within The Head & Neck (Plastic Surgery) Proctology Surgical Critical Care (Surgery) Surgical Oncology Thoracic Surgery Transplant Surgery Traumatic Surgery Urology Vascular Surgery Neurotology (Otolaryngology)

Variables

MGMA 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. MGMA reported medical revenue 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 MGMA. Finally, we calculated a weighted average of mean physician-owned revenue and mean imputed hospital-owned revenue based on respondent Ns. We did not include the value of non-medical revenue which was reported for a minority of practices in the MGMA cost survey, and which was minimal compared to medical revenue (approximately 1% when adjusting for non-reported zeros). 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 local medical wage and price indices. Revenues were adjusted using weighted-state values for Medicare's 2012 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, MGMA 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. The reported N for physician costs was slightly higher

than the reported N for support staff FTEs. 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 MGMA 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 we did adjusted mean FTEs. 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, 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.

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

MGMA Geographic Limitation

Physician practice revenues and wages and benefits vary according to geographic variation in price levels and costs of services. However, the MGMA cost survey 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 48%, 47% and 4%, respectively in 2012, to arrive at the GAF to adjust payments to physicians. Medicare calculates the three GPCIs for payment areas known as Medicare localities. Each physician payment locality is assigned an index value, which equals the area's estimated input cost divided by the average input cost nationally. The locality-level GAF is calculated as the weighted average of the three county-level GPCIs, where the weights are the percentage of relative value units (RVUs) nationally made up by

the PW, PE, and MP RVUs. For calendar year (CY) 2012, the GAF is calculated as follows: [9]

$$GAF_L = (GPCI_{PW,L} \times 0.48266) + (GPCI_{PE,L} \times 0.47439) + (GPCI_{MP,L} \times 0.04295)$$

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). [10] To promote transparency, Medicare provides the county-level GPCI file that they used to develop the final CY2012 GPCIs and GAF.

Practice revenues were adjusted using weighted-state values for Medicare's 2012 GAF. Because CMS uses county-level RVUs to scale county-level estimates to the 89 locality level, we calculated a weighted state-level GAF by first weighting the county-level GPCIs by their respective county-level RVUs. The RVUs capture total intensity of services offered by physicians in given areas and therefore are closely correlated with revenues in an area. We then calculated state-level GAF based on the state-level GPCI per the equation described above.

Because wages and benefits varies by geographic region we adjusted national level MGMA wages and benefits spending by a state-level wage index incorporating both physician wages and clinical and administrative office staff wages. Medicare provides relevant county-level data in a county-level GPCI file which they used to develop the final CY2012 GPCIs and GAF. The data are based on the most recent census data for physicians and relates directly to physicians and their practice expenses while other wage indices are based only on acute inpatient care/hospital costs. In order to

[9] Geographic Adjustment of Medicare Payments to Physicians: Evaluation of IOM Recommendations. Available at: http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/Downloads/Geographic_Adjustment_of_Medicare_Physician_Payments_July2012.pdf

[10] Revisions to the Sixth Update of the Geographic Practice Cost Index: Final Report. Available at: http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/Downloads/CY2012_Revisions_to_the_6th_GPCI_Update-Final_Report.pdf

calculate a wage index incorporating both physician and non-physician compensation, we combined two components used to calculate the GAF: the physician work (PW) GPCI, used to adjust for geographic differences in physician wages, and the Employee Wage Index, used to adjust for geographic differences in wages of clinical and administrative office staff. We first aggregated the PW GPCI to the state level using the PW RVU as weights, and then aggregated the Employee Wage Index to the state level using the practice expense (PE) RVUs as weights. We then combined these two indices into a single wage index using their respective national cost shares. The 2012 national cost share weight for physician compensation is 0.48266 while the weight for non-physician compensation is 0.19153, per the Medicare Economic Index (MEI). Therefore the relative weight for physician compensation (for the state-level PW index) is 0.71591 (0.48266/(0.48266+0.19153)) and for non-physician compensation (for the state-level Employee Wage Index) is 0.28409 (0.19153/(0.48266+0.19153)). We applied these weights of 0.71591 and 0.28409, respectively, to combine the state-level PW index and the Employee Wage Index into a state-level total wage index.

MGMA Data Limitations

Limitations of the MGMA data include: 1) bias towards larger practices that are MGMA members, 2) differences by practice ownership (physician vs. hospital-owned), and 3) availability only at the national level.

We cannot adjust for the possible data bias towards larger practices that are MGMA members. However, we attempted to minimize this bias by including data for all practices with fewer than three physicians instead of relying on MGMA's default setting which only provides data for practices with three or more physicians.

We noted declining trends in MGMA data for mean medical revenue per physician between 2009 and 2012 for the broad specialties. The steepest decline was for surgical (-30.3%), followed by non-surgical (-9.1%) and then primary care (-5.2%). This decline may be related to the underreporting of revenue by hospital-owned

practices as explained earlier, and that hospital-owned practices have increased as a share of total practices in the MGMA data over the 2009 to 2012 period. As explained earlier, we corrected for this underreporting by imputing the mean per physician revenue in hospital-owned practices and using these imputed values rather than the means given by MGMA.

Geographic adjustment was used to address the limitation that MGMA data are only available at the national level.

III. 2011 IMPLAN

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

Multipliers

Multipliers are specific to a state and to a particular industry. State-level and national 2011 multipliers for "Offices of physicians, dentists, and other health practitioners" (IMPLAN industry code 394) were used. 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 a 6.9% decrease in the national output multiplier from 2010 to 2011. A majority of the service sector multipliers in IMPLAN experienced a decline in their values between 2010 and 2011, and 260 of the 440 sectors in the U.S. economy saw a decline in their output multiplier during this period. The average change in the multipliers of the gaining sectors was 2.7% and of the declining multipliers was 2.7%. The biggest outliers were for Home Health Care (-9.4%), Medical and diagnostic labs and outpatient and other ambulatory care services sectors (-17.9%), followed by Offices of physicians, dentists, and other health practitioners (-6.9%). 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. This issue holds for the other service sectors as well. Therefore, the overall change in the average output multiplier for the U.S. declined by more than 1% during this period. The observed decreases in health-related national multipliers are consistent with the slowdown in the growth of healthcare spending, and could also be further related to the after-effects of the recession (lower spending in general and greater leakages). A recent study found that healthcare spending, as a share of GDP, dropped in 2012. While there were signs of modest improvement to the economy, GDP grew faster than health care spending, causing the health spending share of the economy to fall slightly—from 17.3% to 17.2%.[11]

Tax Analyses

Patient care physicians also generate tax revenues at the local and state levels. IMPLAN software also estimates the impact of economic activity on state and local tax revenues, including income, sales, 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 2011 IMPLAN modeling presented in 2011 dollars, using calculated 2012 direct output.

[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.

[12] Estimating the Contribution of a Current Industry Using IMPLAN. MIG, Inc. Available through IMPLAN.com.

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 Security taxes: the state portions of Social Security taxes, both the employee and employer-paid portions;
- 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.

IV. 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 MGMA **x** counts from the Masterfile)
2) Indirect impacts of physicians
    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). 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	**2.616**	**10.971**	**0.532**
Alabama	1.698	6.449	0.232
Alaska	1.559	4.048	0.193
Arizona	1.957	8.016	0.337
Arkansas	1.665	6.265	0.220
California	2.126	7.660	0.400
Colorado	1.974	7.499	0.341
Connecticut	1.786	5.829	0.312
Delaware	1.712	6.099	0.262
District Of Columbia	1.345	2.091	0.151
Florida	2.057	8.865	0.369
Georgia	1.936	7.690	0.329
Hawaii	1.709	5.827	0.240
Idaho	1.736	7.075	0.238
Illinois	1.997	7.415	0.362
Indiana	1.770	6.913	0.259
Iowa	1.681	6.335	0.226
Kansas	1.755	6.593	0.250
Kentucky	1.707	6.606	0.239
Louisiana	1.720	6.366	0.247
Maine	1.761	6.970	0.267
Maryland	1.816	6.367	0.302
Massachusetts	1.868	6.235	0.333
Michigan	1.883	7.659	0.306
Minnesota	1.956	7.543	0.325
Mississippi	1.638	6.106	0.205
Missouri	1.863	7.325	0.303
Montana	1.725	6.833	0.227
Nebraska	1.735	6.751	0.255
Nevada	1.727	6.117	0.257
New Hampshire	1.757	6.405	0.280

State	Output	Jobs	Wages and Benefits
New Jersey	1.883	6.355	0.334
New Mexico	1.664	6.079	0.219
New York	1.819	5.545	0.324
North Carolina	1.858	7.361	0.289
North Dakota	1.565	4.997	0.188
Ohio	1.922	7.858	0.315
Oklahoma	1.775	6.750	0.258
Oregon	1.867	7.455	0.301
Pennsylvania	1.903	7.210	0.326
Rhode Island	1.779	6.551	0.292
South Carolina	1.758	6.973	0.254
South Dakota	1.659	6.126	0.213
Tennessee	1.867	7.289	0.315
Texas	2.011	7.655	0.344
Utah	1.992	8.287	0.316
Vermont	1.699	6.484	0.236
Virginia	1.761	6.152	0.274
Washington	1.895	6.678	0.312
West Virginia	1.596	5.592	0.200
Wisconsin	1.830	7.285	0.283
Wyoming	1.500	4.249	0.163

Appendix C. Comparator Industries

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

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
National	**2.616**	**2.675**	**2.553**	**2.112**	**2.534**
Alabama	1.698	1.778	1.692	1.530	1.665
Alaska	1.559	1.736	1.525	1.445	1.516
Arizona	1.957	1.978	1.918	1.716	1.928
Arkansas	1.665	1.718	1.661	1.532	1.645
California	2.126	2.128	2.043	1.761	2.042
Colorado	1.974	2.107	1.927	1.732	1.922
Connecticut	1.786	1.806	1.742	1.598	1.735
Delaware	1.712	1.735	1.680	1.505	1.679
District Of Columbia	1.345	1.414	1.334	1.208	1.357
Florida	2.057	2.055	2.000	1.781	1.992
Georgia	1.936	1.938	1.919	1.705	1.890
Hawaii	1.709	1.782	1.687	1.546	1.687
Idaho	1.736	1.837	1.724	1.591	1.713
Illinois	1.997	1.997	1.951	1.692	1.950
Indiana	1.770	1.778	1.734	1.590	1.741
Iowa	1.681	1.701	1.663	1.553	1.659
Kansas	1.755	1.799	1.737	1.596	1.736
Kentucky	1.707	1.738	1.678	1.565	1.672
Louisiana	1.720	1.725	1.714	1.545	1.695
Maine	1.761	1.744	1.729	1.608	1.732
Maryland	1.816	1.837	1.774	1.603	1.762
Massachusetts	1.868	1.895	1.821	1.620	1.817
Michigan	1.883	1.954	1.850	1.655	1.852
Minnesota	1.956	2.024	1.956	1.711	1.931
Mississippi	1.638	1.677	1.635	1.499	1.623
Missouri	1.863	1.915	1.845	1.658	1.842
Montana	1.725	1.828	1.700	1.603	1.703
Nebraska	1.735	1.742	1.709	1.572	1.695
Nevada	1.727	1.784	1.691	1.566	1.687
New Hampshire	1.757	1.798	1.733	1.602	1.735
New Jersey	1.883	1.917	1.823	1.642	1.848
New Mexico	1.664	1.748	1.637	1.515	1.650

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
New York	1.819	1.872	1.761	1.562	1.772
North Carolina	1.858	1.869	1.835	1.652	1.851
North Dakota	1.565	1.630	1.559	1.454	1.543
Ohio	1.922	1.992	1.898	1.713	1.908
Oklahoma	1.775	1.823	1.761	1.603	1.751
Oregon	1.867	1.962	1.832	1.674	1.820
Pennsylvania	1.903	1.897	1.854	1.654	1.848
Rhode Island	1.779	1.743	1.726	1.608	1.750
South Carolina	1.758	1.795	1.750	1.585	1.743
South Dakota	1.659	1.711	1.645	1.570	1.636
Tennessee	1.867	1.891	1.843	1.675	1.829
Texas	2.011	2.045	2.005	1.730	2.006
Utah	1.992	2.063	1.952	1.730	1.917
Vermont	1.699	1.754	1.662	1.555	1.651
Virginia	1.761	1.857	1.744	1.574	1.743
Washington	1.895	2.038	1.862	1.682	1.836
West Virginia	1.596	1.624	1.563	1.465	1.569
Wisconsin	1.830	1.858	1.815	1.628	1.805
Wyoming	1.500	1.634	1.492	1.417	1.471

Table C-2: State and National Jobs Multipliers by Industry

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
National	**10.971**	**10.537**	**10.405**	**7.660**	**10.573**
Alabama	6.449	6.266	6.373	4.844	6.334
Alaska	4.048	4.395	3.655	3.124	3.671
Arizona	8.016	7.396	7.670	5.960	7.937
Arkansas	6.265	5.776	6.102	4.956	6.162
California	7.660	7.032	7.093	5.181	7.262
Colorado	7.499	7.614	7.050	5.613	7.178
Connecticut	5.829	5.594	5.543	4.389	5.566
Delaware	6.099	5.761	5.816	4.270	5.904
District Of Columbia	2.091	2.011	1.981	1.259	2.274
Florida	8.865	8.077	8.348	6.470	8.454
Georgia	7.690	6.929	7.500	5.682	7.527
Hawaii	5.827	5.495	5.498	4.333	5.843

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
Idaho	7.075	7.060	6.863	5.650	7.021
Illinois	7.415	6.748	7.055	5.136	7.282
Indiana	6.913	6.270	6.606	5.314	6.864
Iowa	6.335	5.722	6.072	5.124	6.276
Kansas	6.593	6.021	6.343	5.141	6.598
Kentucky	6.606	6.014	6.276	5.190	6.395
Louisiana	6.366	5.756	6.243	4.760	6.266
Maine	6.970	6.312	6.614	5.570	6.734
Maryland	6.367	5.871	5.959	4.630	6.065
Massachusetts	6.235	5.809	5.869	4.401	5.984
Michigan	7.659	7.281	7.354	5.615	7.584
Minnesota	7.543	7.164	7.395	5.577	7.604
Mississippi	6.106	5.665	6.001	4.710	6.048
Missouri	7.325	6.954	7.128	5.520	7.288
Montana	6.833	6.783	6.511	5.709	6.708
Nebraska	6.751	6.103	6.438	5.263	6.472
Nevada	6.117	6.098	5.839	4.737	5.848
New Hampshire	6.405	6.082	6.156	5.022	6.312
New Jersey	6.355	6.056	5.967	4.598	6.304
New Mexico	6.079	5.886	5.714	4.692	6.104
New York	5.545	5.316	5.116	3.788	5.340
North Carolina	7.361	6.843	7.196	5.576	7.550
North Dakota	4.997	4.723	4.803	3.996	4.786
Ohio	7.858	7.390	7.535	5.997	7.970
Oklahoma	6.750	6.097	6.509	5.180	6.714
Oregon	7.455	7.350	7.115	5.826	7.197
Pennsylvania	7.210	6.574	6.755	5.225	6.883
Rhode Island	6.551	5.795	6.150	4.955	6.426
South Carolina	6.973	6.437	6.832	5.303	7.015
South Dakota	6.126	5.744	5.876	5.340	5.924
Tennessee	7.289	6.834	7.083	5.599	7.088
Texas	7.655	7.061	7.507	5.500	7.897
Utah	8.287	8.128	7.863	6.190	7.754
Vermont	6.484	6.080	6.017	5.057	6.091
Virginia	6.152	6.158	5.962	4.581	6.127
Washington	6.678	7.064	6.326	5.078	6.273
West Virginia	5.592	4.977	5.198	4.398	5.372
Wisconsin	7.285	6.779	7.057	5.507	7.286

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
Wyoming	4.249	4.697	4.107	3.462	4.024

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

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
National	**0.532**	**0.505**	**0.490**	**0.359**	**0.499**
Alabama	0.232	0.226	0.221	0.168	0.217
Alaska	0.193	0.210	0.169	0.142	0.173
Arizona	0.337	0.304	0.314	0.242	0.326
Arkansas	0.220	0.203	0.209	0.170	0.211
California	0.400	0.368	0.357	0.262	0.366
Colorado	0.341	0.345	0.312	0.248	0.319
Connecticut	0.312	0.291	0.288	0.229	0.291
Delaware	0.262	0.240	0.242	0.177	0.248
District Of Columbia	0.151	0.142	0.138	0.082	0.158
Florida	0.369	0.327	0.338	0.262	0.342
Georgia	0.329	0.288	0.312	0.239	0.310
Hawaii	0.240	0.226	0.222	0.174	0.232
Idaho	0.238	0.239	0.224	0.182	0.229
Illinois	0.362	0.328	0.337	0.243	0.342
Indiana	0.259	0.233	0.240	0.192	0.249
Iowa	0.226	0.206	0.212	0.177	0.218
Kansas	0.250	0.225	0.235	0.190	0.244
Kentucky	0.239	0.214	0.221	0.183	0.224
Louisiana	0.247	0.218	0.236	0.179	0.237
Maine	0.267	0.233	0.248	0.207	0.257
Maryland	0.302	0.276	0.276	0.212	0.277
Massachusetts	0.333	0.310	0.307	0.229	0.312
Michigan	0.306	0.294	0.287	0.218	0.294
Minnesota	0.325	0.309	0.313	0.234	0.318
Mississippi	0.205	0.189	0.196	0.154	0.198
Missouri	0.303	0.286	0.288	0.225	0.295
Montana	0.227	0.218	0.209	0.181	0.218
Nebraska	0.255	0.230	0.240	0.192	0.238
Nevada	0.257	0.244	0.236	0.192	0.238
New Hampshire	0.280	0.262	0.265	0.214	0.271

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
New Jersey	0.334	0.313	0.303	0.236	0.320
New Mexico	0.219	0.212	0.199	0.161	0.214
New York	0.324	0.304	0.291	0.214	0.304
North Carolina	0.289	0.261	0.274	0.212	0.289
North Dakota	0.188	0.175	0.179	0.145	0.179
Ohio	0.315	0.301	0.297	0.236	0.311
Oklahoma	0.258	0.231	0.243	0.192	0.250
Oregon	0.301	0.293	0.278	0.225	0.281
Pennsylvania	0.326	0.294	0.299	0.230	0.302
Rhode Island	0.292	0.249	0.266	0.220	0.281
South Carolina	0.254	0.228	0.243	0.187	0.248
South Dakota	0.213	0.195	0.200	0.178	0.203
Tennessee	0.315	0.288	0.298	0.237	0.298
Texas	0.344	0.312	0.329	0.239	0.343
Utah	0.316	0.302	0.289	0.225	0.286
Vermont	0.236	0.220	0.214	0.178	0.215
Virginia	0.274	0.272	0.259	0.197	0.266
Washington	0.312	0.328	0.288	0.229	0.287
West Virginia	0.200	0.176	0.183	0.150	0.189
Wisconsin	0.283	0.260	0.268	0.207	0.275
Wyoming	0.163	0.169	0.150	0.129	0.150

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

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
National	**$1,581,631.3**	**$387,939.2**	**$491,163.6**	**$583,056.1**	**$180,824.2**
Alabama	$11,184.8	$1,435.5	$4,025.2	$4,215.9	$1,482.4
Alaska	$2,037.1	$155.4	$395.7	$426.2	$182.6
Arizona	$21,479.1	$3,896.9	$5,196.9	$6,844.5	$2,307.8
Arkansas	$6,255.0	$735.2	$2,828.7	$1,638.7	$499.7
California	$162,588.2	$32,274.9	$34,343.2	$64,195.8	$9,946.7
Colorado	$20,061.6	$2,927.5	$4,891.0	$7,393.1	$1,757.7
Connecticut	$16,630.6	$6,463.1	$7,276.8	$5,112.8	$2,005.9
Delaware	$3,200.8	$381.9	$1,077.2	$2,310.1	$382.5
District Of Columbia	$5,648.4	$4,100.3	$703.5	$15,211.9	$362.2
Florida	$76,412.8	$11,291.9	$22,699.0	$35,728.3	$9,385.1
Georgia	$29,663.1	$7,824.5	$6,520.9	$11,122.5	$2,772.5

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
Hawaii	$5,290.7	$485.5	$894.6	$1,275.6	$286.0
Idaho	$3,567.2	$789.5	$1,291.6	$1,114.5	$554.0
Illinois	$50,918.4	$16,968.3	$15,687.3	$26,067.6	$4,978.9
Indiana	$18,201.4	$4,990.5	$7,652.5	$4,440.3	$1,917.1
Iowa	$7,138.6	$2,320.3	$4,805.2	$2,115.9	$730.8
Kansas	$7,154.6	$1,167.2	$3,754.1	$1,887.5	$835.1
Kentucky	$11,450.8	$2,193.2	$4,493.4	$2,874.1	$1,159.1
Louisiana	$13,160.4	$2,419.5	$3,930.6	$6,576.4	$2,778.1
Maine	$5,051.0	$1,127.1	$2,299.9	$1,334.6	$445.5
Maryland	$28,453.3	$5,937.0	$8,218.2	$6,385.5	$1,923.5
Massachusetts	$39,491.9	$23,133.9	$11,912.0	$12,174.6	$4,340.7
Michigan	$36,961.2	$4,278.4	$10,509.2	$9,535.6	$4,286.4
Minnesota	$20,980.4	$4,998.0	$10,174.4	$7,924.1	$1,888.8
Mississippi	$6,096.8	$642.3	$2,250.6	$2,322.2	$1,012.6
Missouri	$20,307.9	$5,744.0	$7,171.1	$7,347.5	$2,091.4
Montana	$2,797.3	$178.5	$1,053.5	$899.9	$242.9
Nebraska	$4,760.6	$1,810.5	$2,816.9	$1,392.0	$333.9
Nevada	$7,011.6	$282.4	$1,186.2	$4,074.0	$673.4
New Hampshire	$5,320.0	$2,060.3	$1,617.6	$1,526.9	$484.5
New Jersey	$38,962.9	$4,865.4	$11,039.1	$15,003.6	$4,495.3
New Mexico	$5,457.1	$340.1	$1,301.6	$1,446.9	$913.5
New York	$98,925.2	$36,291.5	$28,676.9	$59,935.3	$14,551.1
North Carolina	$29,401.5	$7,640.6	$10,147.3	$7,455.1	$3,888.6
North Dakota	$1,817.5	$167.3	$1,339.7	$446.8	$72.8
Ohio	$43,413.4	$7,837.7	$18,324.7	$11,572.8	$6,012.6
Oklahoma	$9,012.0	$1,269.4	$3,361.6	$4,198.3	$1,928.5
Oregon	$14,843.9	$2,355.0	$4,838.9	$4,517.9	$542.5
Pennsylvania	$52,982.1	$25,763.3	$22,900.1	$19,861.8	$5,305.9
Rhode Island	$4,817.9	$2,545.4	$1,930.6	$1,331.1	$534.9
South Carolina	$12,625.8	$2,276.9	$3,854.0	$4,195.0	$1,041.9
South Dakota	$2,114.7	$614.5	$1,128.4	$469.3	$108.3
Tennessee	$20,063.5	$4,589.6	$6,949.3	$4,938.1	$2,753.2
Texas	$78,630.9	$10,937.2	$20,760.0	$35,158.1	$21,933.7
Utah	$8,308.7	$2,687.6	$2,410.6	$3,246.0	$798.6
Vermont	$2,396.5	$1,005.1	$707.4	$677.2	$244.3
Virginia	$26,159.9	$4,414.0	$7,517.5	$8,165.8	$2,397.9
Washington	$26,052.3	$2,957.8	$7,024.0	$7,714.0	$1,391.7
West Virginia	$4,290.9	$711.2	$1,647.3	$1,582.8	$659.5

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
Wisconsin	$18,802.9	$5,459.5	$7,832.0	$5,573.2	$1,250.8
Wyoming	$1,155.1	$29.8	$430.3	$416.6	$55.0

C-5: Total State- and National-Level Jobs by Industry

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
National	**9,968,342**	**3,267,875**	**5,283,484**	**3,843,986**	**2,173,800**
Alabama	83,095	17,641	58,969	33,347	20,202
Alaska	12,515	1,915	5,129	3,381	2,762
Arizona	149,844	38,490	67,554	51,526	34,261
Arkansas	47,385	9,167	42,283	14,731	7,357
California	983,990	271,943	390,895	403,270	122,374
Colorado	132,971	29,666	59,361	53,405	25,074
Connecticut	101,472	56,587	85,891	36,751	23,913
Delaware	21,718	3,961	13,999	13,751	5,014
District Of Columbia	29,102	37,646	9,171	53,143	6,571
Florida	528,732	114,582	287,393	269,700	124,664
Georgia	205,869	75,019	87,432	82,926	37,953
Hawaii	34,586	5,006	11,534	9,929	4,565
Idaho	27,095	9,395	19,290	9,858	9,995
Illinois	326,456	152,118	195,017	158,089	66,190
Indiana	132,657	55,777	107,217	38,853	28,659
Iowa	53,962	27,936	72,982	18,988	11,253
Kansas	51,988	13,970	54,230	16,416	14,197
Kentucky	85,137	27,586	60,855	26,145	15,106
Louisiana	93,974	25,202	57,732	51,194	39,220
Maine	37,237	12,633	32,545	11,765	6,744
Maryland	179,511	53,105	102,266	45,639	24,848
Massachusetts	242,129	199,876	140,106	77,126	54,028
Michigan	259,537	48,052	146,143	72,965	63,461
Minnesota	143,356	51,193	141,334	55,771	29,834
Mississippi	45,468	7,870	33,651	20,016	13,211
Missouri	143,424	60,852	101,178	54,752	30,747
Montana	20,988	2,246	15,718	8,639	4,103
Nebraska	35,539	20,666	39,898	12,051	4,969
Nevada	46,704	3,094	15,673	30,730	8,524

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
New Hampshire	36,216	19,970	21,053	12,447	6,827
New Jersey	234,906	45,627	128,378	100,517	61,928
New Mexico	39,385	4,102	18,626	12,598	17,634
New York	571,593	319,684	327,599	324,159	200,874
North Carolina	210,311	79,056	141,403	61,832	65,014
North Dakota	13,038	2,145	20,000	3,892	1,111
Ohio	306,091	81,465	245,540	92,984	95,738
Oklahoma	66,448	14,751	47,502	34,650	30,613
Oregon	105,434	26,560	66,009	37,334	7,620
Pennsylvania	355,013	241,871	286,182	138,471	67,430
Rhode Island	32,117	25,588	25,420	10,892	7,898
South Carolina	93,392	27,058	54,650	35,168	16,365
South Dakota	15,846	7,752	17,300	4,891	1,747
Tennessee	143,229	48,575	87,269	39,768	32,603
Texas	522,619	104,125	261,448	236,660	361,448
Utah	58,586	28,369	32,812	25,499	10,959
Vermont	17,412	11,267	9,658	6,045	3,798
Virginia	174,242	45,715	97,462	58,004	36,848
Washington	167,923	30,888	86,896	56,910	17,336
West Virginia	32,989	9,422	24,542	13,848	10,975
Wisconsin	136,910	57,565	109,426	43,061	19,994
Wyoming	7,837	372	5,874	3,766	873

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

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
National	**$775,506.1**	**$147,127.3**	**$200,629.0**	**$206,863.9**	**$75,176.5**
Alabama	$6,656.5	$495.7	$1,773.3	$1,548.9	$708.3
Alaska	$1,244.0	$46.9	$195.3	$138.5	$83.1
Arizona	$11,907.8	$1,585.2	$2,345.6	$2,509.1	$1,083.1
Arkansas	$3,768.6	$254.6	$1,233.8	$562.0	$249.3
California	$88,071.7	$13,665.6	$15,559.1	$24,263.8	$4,610.3
Colorado	$11,166.7	$1,083.1	$2,245.3	$2,788.2	$807.3
Connecticut	$9,731.3	$3,038.2	$3,725.2	$1,825.4	$989.6
Delaware	$1,917.8	$161.2	$530.8	$917.5	$201.3
District Of Columbia	$3,735.6	$2,035.2	$387.6	$6,292.2	$197.6

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
Florida	$40,213.4	$4,475.8	$10,097.7	$13,569.2	$4,506.9
Georgia	$16,633.6	$3,269.9	$2,849.5	$4,089.5	$1,322.5
Hawaii	$3,020.5	$193.0	$415.2	$432.0	$129.1
Idaho	$2,086.6	$280.9	$557.2	$354.0	$226.5
Illinois	$27,907.2	$7,441.1	$7,130.4	$9,889.8	$2,379.1
Indiana	$10,564.8	$1,937.2	$3,468.2	$1,483.0	$879.6
Iowa	$4,276.8	$868.6	$2,145.6	$696.4	$350.0
Kansas	$4,110.9	$399.8	$1,668.1	$651.4	$366.7
Kentucky	$6,790.5	$759.5	$1,974.0	$971.4	$585.2
Louisiana	$7,687.4	$1,012.5	$1,730.8	$2,195.2	$1,243.8
Maine	$2,974.8	$452.8	$1,065.7	$456.4	$215.1
Maryland	$16,301.7	$2,673.4	$3,939.1	$2,539.7	$945.0
Massachusetts	$22,830.1	$10,651.8	$5,852.9	$4,776.5	$2,140.3
Michigan	$20,717.9	$1,547.0	$4,681.9	$3,600.0	$2,029.7
Minnesota	$11,957.8	$1,902.0	$4,367.0	$2,941.3	$896.5
Mississippi	$3,607.7	$234.0	$1,001.2	$750.6	$476.3
Missouri	$11,525.0	$2,268.6	$3,179.3	$2,683.3	$991.2
Montana	$1,585.7	$57.0	$460.8	$292.3	$102.4
Nebraska	$2,844.6	$718.0	$1,315.9	$515.6	$165.9
Nevada	$4,035.1	$111.1	$564.9	$1,456.5	$341.5
New Hampshire	$3,101.5	$901.5	$783.5	$545.8	$241.8
New Jersey	$22,066.5	$2,093.6	$5,337.6	$5,824.0	$2,020.1
New Mexico	$3,240.1	$116.2	$597.4	$544.8	$411.9
New York	$57,470.0	$16,317.0	$14,231.5	$22,910.7	$6,759.6
North Carolina	$16,770.6	$3,088.8	$4,483.1	$2,685.5	$1,756.8
North Dakota	$1,127.8	$56.0	$621.6	$158.9	$38.7
Ohio	$24,202.7	$3,012.0	$8,122.2	$4,127.5	$2,716.3
Oklahoma	$5,205.9	$445.0	$1,474.6	$1,471.7	$863.9
Oregon	$8,570.3	$847.8	$2,061.0	$1,554.0	$256.3
Pennsylvania	$29,861.8	$11,326.0	$10,709.0	$7,477.2	$2,608.6
Rhode Island	$2,824.7	$1,133.9	$937.9	$460.5	$264.2
South Carolina	$7,389.7	$811.6	$1,751.5	$1,489.3	$487.4
South Dakota	$1,262.9	$209.0	$502.0	$146.9	$50.0
Tennessee	$11,701.4	$1,841.6	$3,048.6	$1,699.7	$1,224.6
Texas	$43,047.3	$4,243.5	$8,870.3	$12,678.8	$9,152.6
Utah	$4,419.0	$989.0	$1,011.0	$1,160.3	$365.7
Vermont	$1,415.3	$388.6	$331.1	$229.7	$115.3
Virginia	$15,247.7	$1,743.9	$3,463.7	$3,325.1	$1,157.9

State	Physicians	Higher Education	Nursing Home	Legal Services	Home Health
Washington	$14,790.4	$1,078.6	$3,108.1	$2,790.8	$649.7
West Virginia	$2,704.3	$234.4	$769.6	$501.5	$296.5
Wisconsin	$11,109.0	$2,180.3	$3,478.6	$1,976.8	$609.8
Wyoming	$698.9	$9.6	$207.4	$134.9	$26.0