

**The Characteristics of Physicians Elected and Serving in State Legislatures and the United States Congress**

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## **Abstract**

Physician participation in United States governance has a long and honorable history, dating to the nation's inception. At a time of unprecedented change in health policy - to control the growth of health care costs, to cover the uninsured through Affordable Care Act (ACA) provisions, to improve quality, to meet the demand for health services as the population grows and ages - the need for physician leadership to guide policy interventions has never been greater. Yet physician-legislator participation has declined. There is little data about physicians involved in shaping health policy in state or federal legislative branches.

This study examines the characteristics of physician-legislators at the federal and state levels, and compares them to U.S. physicians in general. Using rosters fixed on March 13, 2014, the study reviewed biographic and demographic information on physician-legislators. The study's four hypotheses were that physician-legislators were more likely to be (1) men than women, (2) members of the Republican Party than the Democratic Party, (3) a non-primary care physician than a primary care physician, and (4) elected in the states where they completed graduate medical education than where they attended college.

Ninety-five physician-legislators were identified in 51 legislative bodies in 2014. Physician-legislators were more likely to be male than female, to be Republican than Democrat, and to be practicing in a non-primary care than in a primary care specialty. Physician-legislators were less likely to be elected in the state where they completed graduate medical education training than where they attended college. No personal factor was identified that linked the majority of physician-legislators to the state in which they were elected.

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## Introduction

Physician participation in United States governance has a long and honorable history. Thirty-one of the 363 (8.5%) participants in the Continental Congress were physicians, as were six of the 56 (10.7%) signers of the Declaration of Independence, and two of the 39 (5.2%) contributors to the U.S. Constitution.<sup>1</sup> In the first 50 two-year Congressional sessions, 252 physicians served. However, only 60 participated in the subsequent 47 sessions ending in 1982. The downward trend continued from 1960-2004, when only 25 of 2196 (1.1%) members of Congress were physicians.<sup>2</sup> Just one president, William Henry Harrison – who served 32 days in 1841 before dying in office of pneumonia - briefly attended medical school (at the University of Pennsylvania medical school under Benjamin Rush). He did not graduate, much less practice medicine. Historically, physicians have served in federal and state legislative branches, as governors in state executive branches, and even in the judicial branch on the U.S. Supreme Court.<sup>3</sup>

At a time of unprecedented transformation of the U.S. health system - to control the growth of health care costs in Medicare and Medicaid (Social Security Act “entitlement” programs), to cover the uninsured through Affordable Care Act provisions through the Marketplace and through Medicaid expansion, to improve quality, to reduce health disparities, to improve health outcomes, and to meet the demand for health services as the population grows and ages - the need for physician leadership to guide policy interventions has never been greater. Yet physician-legislator participation has plummeted. There is little data and few studies published about physicians involved in shaping health policy in state or federal legislative branches.

The Congressional Budget Office (CBO) estimates that Medicare and Medicaid spending will double from five to ten percent of the Gross Domestic Product over 25 years.<sup>4</sup> Changing the trajectory of entitlement health program spending, bending the cost curve, helps assure economic prosperity and high-quality, accessible health care for every American. ACA implementation dramatically impacts cost growth, health insurance coverage, health services demand, access to health care, and physician practice. The aging of the U.S. population and physician workforce, expanded coverage of the uninsured, and population growth strain the

nation's health workforce capacity.<sup>5</sup> Population growth comprises the majority (60%) of increased health services demand.<sup>6</sup> However, expanding coverage also increases demand, as the newly covered seek health services. ACA Marketplace (over 9 million with subsidized plans) and Medicaid expansion (14 million) covered 24 million in 2015.<sup>7,8</sup> The percent uninsured decreased from 20.3% to 12.6% from when the ACA was signed into law in March of 2010 through September 2015.<sup>9</sup> The residual uninsured is 29 million in 2015.<sup>10</sup>

Will there be enough physicians to meet the burgeoning demand? A robust 30% growth in the undergraduate, medical school class size<sup>11</sup> will produce 5000 more graduates by 2019.<sup>12</sup> The rate-limiting factors in training an adequate physician supply include the 1997 Balanced Budget Agreement cap on the number of federally subsidized graduate medical education (GME) residency training slots, a paucity of outpatient community-based training sites and preceptors, and insufficient health profession training program accountability, fiscal and other incentives tied to producing the types of physicians most needed and to placing and retaining physicians in rural and inner-city underserved areas and populations.<sup>13</sup> Physician leadership in state and federal legislatures could help guide policy interventions to meet these challenges.

How similar are physician-legislators to practicing physicians, or to the American population as a whole? Every physician that served in Congress between 1960 and 2004 graduated from an allopathic (M.D.) medical school.<sup>2</sup> There are no comprehensive studies of state physician-legislators.

Physicians can serve important roles informing Congressional health policy deliberations. They lobby Congress, and are seen as effective.<sup>14,15</sup> Physicians can mobilize public support for state and federal legislative initiatives to improve coverage, access to high quality health care, and health outcomes.<sup>16</sup> Physician voice in health policy, legislation and regulation can be magnified by advocacy groups (organized medicine) such as the American Medical Association (AMA, with 232,000 members), the American Academy of Family Physicians (AAFP, 121,000 members), American College of Physicians (ACP, 143,000 members), American Association of Pediatrics (AAP, 62,000 members).<sup>17</sup> Each has interests defined by members, elected officers and full time staff – their policy agendas may align or run counter to other advocacy groups, population health needs, patients, consumers, communities, and other

stakeholders. For example, changing Medicare payments, with Congressional and federal agency (e.g., Centers for Medicare and Medicaid Services, CMS) rules requiring a zero-sum federal budget effect, divides physicians vying for payment that can come at the expense of another specialty. Legislators try to parse which changes they will support or oppose depending on feedback, support, or actions by constituents, lobbyists and other stakeholders. Legislators may lack the training, experience, and perspective of a physician-legislator to inform health policy decisions.

Conflicting health policies advanced by physicians, advocacy groups that represent them, the array of 24 specialty boards, and over 130 physician specialty and subspecialty certificates<sup>18</sup> further confound legislators. Specialty definitions and scopes of practice can vary widely by state. The definition of primary care is contested, as is which health providers should be included or excluded. Non-physician health providers increasingly seek legislation and regulation to expand their scope of practice, and be eligible for payment from Medicare, Medicaid, and other payers for health services.

From 1987 to 2002, fewer U.S. allopathic medical school graduates entered primary care residencies.<sup>19,20</sup> Increasingly, graduates from osteopathic and international medical schools fill many of the nation's GME primary care and other residency slots.<sup>21</sup> Physicians in non-primary care specialties generally earn significantly more throughout their career.<sup>22</sup> GME residency training confuses policymakers. For example, almost all family medicine residency graduates go on to practice primary care as defined by the IOM, and the AAFP. However, most internal medicine and pediatric residents pursue one of the 40 pediatric or internal medicine subspecialties, yet are counted as primary care residents.<sup>23</sup> The substantial and widening income gap between primary and subspecialty physicians influences specialty choice, correlating with the rising debt burden of medical students at graduation.<sup>24</sup>

Many factors influence physician decisions such as specialty choice, scope of practice, practice location, and whether to run for and serve in the legislative branch of state or federal government. Such decisions could enhance, eliminate or curtail medical practice income. What factors influence or predict their eventual location of practice? Physician training and practice migration are common. Practicing physicians often remain in the states where they completed

GME training, although subsequent moves occur. Of those who migrate, a higher number will change counties (and likely their legislative districts) than change states or regions.<sup>25</sup> Are physician-legislators elected in states where they were born, completed undergraduate education, or residency training? This investigation explores the demographic makeup of physician-legislators to answer these questions, and prove or disprove the hypotheses.

## Methods

This study investigated the biographic and demographic characteristics of physician-legislators at the federal and state levels. Legislatures studied were the House and Senate of the U.S. Congress and of the forty-nine states with bicameral legislatures, the Nebraska unicameral legislature, and the District of Columbia unicameral council. Because the legislature changes over time due to elections, retirement, illness, and death, the rosters of these 102 legislative bodies studied were fixed on March 13, 2014, an arbitrary date.

All members of these legislative bodies were researched to identify which legislators were physicians, defined as individuals holding an M.D. or D.O. degree. For individuals identified as physician-legislators, the following data points were then collected: seat title, last name, first name, political party (excepting the nonpartisan Nebraska legislature), medical degree type, medical specialty, subspecialty (if applicable), undergraduate college, undergraduate college location by state, medical school, medical school location by state, residency site, residency site location by state, gender, place of birth by state, and birth date.

Data points were obtained using publicly available information from the following sources: legislative bodies' official websites including legislator biographies, legislator personal websites, candidate websites, state medical licensing board websites, the website of the American Board of Medical Specialties, published media containing official statements by legislators while running for legislative office or after being elected, and published media pertaining to election results. Not all data points of interest could be obtained for every identified physician-legislator using these sources. Once such sources had been exhausted, the medical association of each state was contacted in an attempt to confirm that there were no unidentified physician-legislators in that state, and to inquire regarding the uncollected data points. Personnel from 27 of the 50 state medical associations responded to confirm that all physician-legislators were identified, but only a few additional data points were obtained from these sources.

Using the aggregate data, the characteristics of physician-legislators were compared to the characteristics of U.S. physicians as a whole, as reported in the Association of American

Medical Colleges (AAMC) 2012 Physician Specialty Data Book.<sup>26</sup> Analysis for statistical significance was not performed as the group of interest was not a sample of US physicians.

Classification of physician specialties into primary care and non-primary care was made using the IOM definition of primary care: general non-subspecialty family medicine, internal medicine, and pediatrics. All other physicians were considered non-primary care.<sup>27</sup>

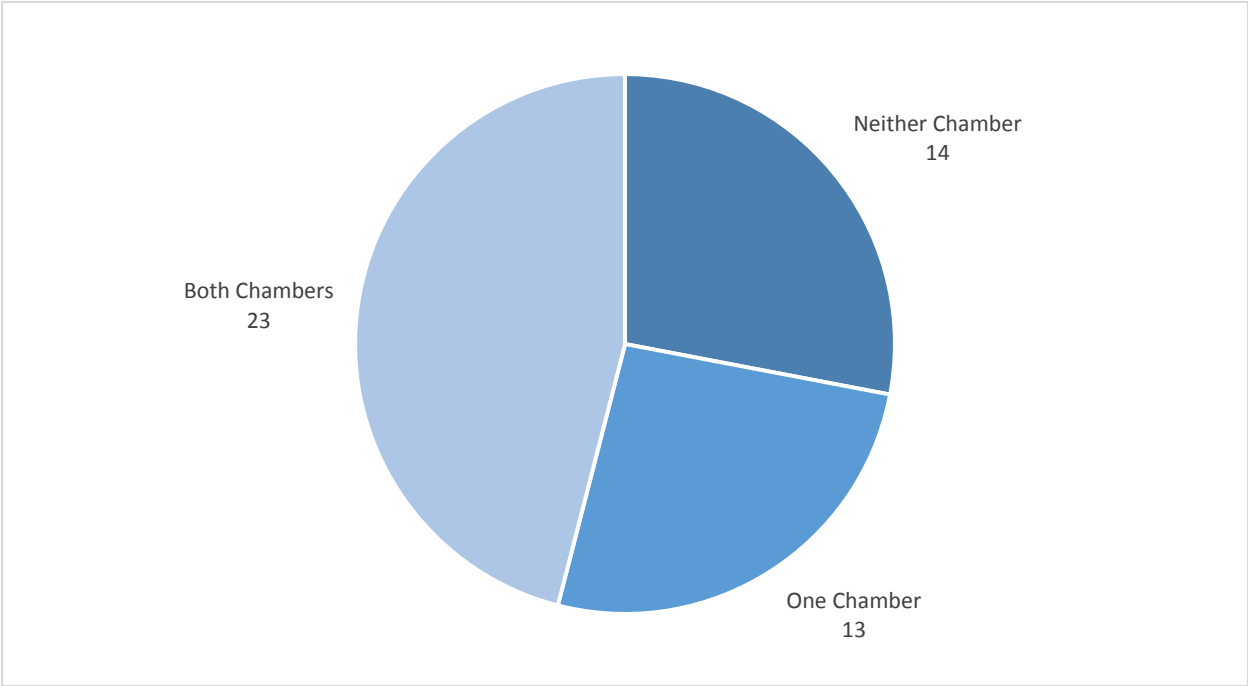
Physician-legislators were split into the two age groups used in the AAMC 2012 Physician Specialty Data Book: age 54 or younger, and age 55 or older.

Several foreign-born international medical graduates (IMGs) were identified among the group of physician-legislators. These individuals were by definition not born in the state in which they were elected, did not complete college or undergraduate medical education (UME) in the United States. Each IMG completed U.S. GME and thus could potentially have been elected from the state where that training took place.

## Results

The 102 legislative bodies examined contained a total of 7,907 seats. Of those seats, 95 (1.2%) were held by individuals identified as physicians. Fifty-one (50.0%) legislative bodies included a physician-legislator, and 51 (50.0%) did not. Physician-legislators were seated in both houses of the U.S. Congress. Of the 50 state legislatures, 14 (28%) had no physician-legislators, 36 (72%) had a physician-legislator in at least one chamber of which 23 (46%) had physician-legislators seated in both chambers and 13 (26%) in one chamber. Neither Nebraska's unicameral legislature nor the District of Columbia Council had a physician-legislator seated at the time of data fixation.

Figure 1. Number of State Legislatures with Physician-Legislators.



Ten (10.5%) physician-legislators were female, and 85 (89.5%) were male. Twenty-three physician-legislators (31.1%) were age 54 years or younger, and 51 (68.9%) were age 55 years or older.

Twenty-nine physician-legislators (30.5%) were elected as members of the Democratic Party, 66 (69.5%) Republican Party, and no Independents. Seventy-three (76.8%) physician-legislators were in their chamber's partisan majority; with 22 (23.2%) in the minority.

Eighty-three (86.3%) of the physician-legislators were allopathic (M.D.) physicians, three (3.2%) were IMGs, and nine (9.5%) were osteopathic (D.O.) physicians.

Forty-four (46.3%) physician-legislators practiced in primary care, while 51 (53.7%) practiced outside of primary care. Of those in primary care, 31 (32.6%) physician-legislators specialized in family medicine (i.e., one-third of the total of 95 physician-legislators), nine (9.5%) in internal medicine, and four (4.2%) in pediatrics. Of those in non-primary care fields, eight (8.4%) specialized in emergency medicine, eight (8.4%) in obstetrics and gynecology, seven (7.4%) in general surgery or surgical subspecialties, six (6.3%) in orthopedic surgery, six (6.3%) in internal medicine subspecialties, five (5.3%) in anesthesiology, three (3.2%) in ophthalmology, two (2.1%) in neurosurgery, two in otolaryngology and one each (1.1% each) in neurology, plastic surgery, and psychiatry. Classification of physician-legislator specialties was performed based upon both residency training and board certification, with two exceptions: one physician who trained in family medicine but was not board certified (assigned to the family medicine category), and another physician who was trained in another specialty but was board certified in emergency medicine (assigned to the emergency medicine category).

Table 1. Physician-Legislator Specialties.

Specialty	Number (Percent)
Primary care	
Family medicine*	31 (32.6%)
Internal medicine	9 (9.5%)
Pediatrics	4 (4.2%)
<i>Total</i>	44 (46.3%)
Non-primary care	
Anesthesiology	5 (5.3%)
Emergency medicine**	8 (8.4%)
Internal medicine subspecialties	6 (6.3%)
Neurology	1 (1.1%)
Neurosurgery	2 (2.1%)
Obstetrics and gynecology	8 (8.4%)
Ophthalmology	3 (3.2%)
Orthopedic surgery	6 (6.3%)
Otolaryngology	2 (2.1%)
Pediatrics subspecialties	1 (1.1%)
Plastic surgery	1 (1.1%)
Psychiatry	1 (1.1%)
Surgery and surgical subspecialties	7 (7.4%)
<i>Total</i>	51 (53.7%)

\*One physician was not board-certified but trained in family medicine.

\*\*One physician trained in another specialty but was board-certified in emergency medicine.

Thirty-five physician-legislators (44.3%) were elected in their states of birth, 45 (48.9%) were elected in the states of their collegiate education, 39 (41.1%) were elected in the states of their undergraduate medical education, and 37 (40.2%) were elected in the states of their GME. Nineteen physician-legislators (25.7%), were born and completed college and graduate medical education all in the same state in which they were elected. Fifty-two physician-legislators (54.7%) were connected in at least one of these ways, while 37 (32.4%) were not connected in any of these ways.

Table 2. Characteristics of Physician-Legislators.\*

Characteristic	Number (Percent)
<b>Gender</b>	
Female	10 (10.5%)
Male	85 (89.5%)
<b>Age</b>	
54 or younger	23 (31.1%)
55 or older	51 (68.9%)
<b>Political Party</b>	
Democrat	29 (30.5%)
Republican	66 (69.5%)
<b>Physician type</b>	
Allopathic	83 (86.3%)
International medical graduate	3 (3.2%)
Osteopathic	9 (9.5%)
<b>Medical specialty type</b>	
Primary care	44 (46.3%)
Non-primary care	51 (53.7%)
<b>Connection to state of practice/election</b>	
State of birth	35 (44.3%)
State of college education	45 (48.9%)
State of undergraduate medical education	39 (41.1%)
State of graduate medical education	37 (40.2%)
<i>All of the above</i>	<i>19 (25.7%)</i>
<i>None of the above</i>	<i>24 (32.4%)</i>
<i>At least one of the above</i>	<i>52 (54.7%)</i>

\*Categories may not total 95 due to partially available data

## Discussion

Three of the four study hypotheses were supported by the data collected. Physician-legislators were more likely to be (1) men than women, (2) members of the Republican Party than the Democratic Party, (3) a non-primary care physician specialist than a primary care physician. Physician-legislators were over twice as likely to belong to the Republican as the Democratic Party.

The fourth hypothesis - that physician legislators were more likely to be (4) elected in the states where they completed graduate medical education than where they attended college – was not supported by the data.

There was a markedly higher number of male physician-legislators than female, and as compared to percentage of male versus female physicians in the United States. Fifty-two of 95 (54.7%) physician-legislators were connected to the state where they were elected in at least one of four ways – birth, college, undergraduate medical education, or graduate medical education. One-quarter of physician-legislators were born, attended college, and underwent UME and GME in the same state where they were elected. There were no substantial differences when comparing these four factors and where U.S. physicians practice, and these factors and where physician-legislators were elected. Physician-legislators are slightly more likely to have been elected from the state in which they attended medical school than to have been elected in the state where GME training was completed.

Demographic and other characteristics comparing physician-legislators to all U.S. physicians are summarized in Table 3. Over two-thirds of physician-legislators (68.9%) were age 55 years or older, compared to 40.3% for all U.S. physicians. The large majority (86.3%) of physician-legislators graduated from U.S. allopathic (M.D.) medical schools, than from U.S. osteopathic (D.O.) schools (9.5%), or from medical schools outside the U.S. (IMG 3.2%). This compares to U.S. physicians where 69.1% are allopathic, 6.9% osteopathic, and 24.0% IMGs.

By far, family medicine physician legislators comprise the largest number (31) and percentage (32.6%) of physician legislators compared to any other single specialty. Overall, physician-legislators are more likely to be non-primary care specialists than primary care physicians, consistent with trends for U.S. total physicians. Primary care physician-legislators

are overrepresented, driven by the large number of family medicine physician-legislators. When specialties of physician-legislators and U.S. physicians are compared, neurosurgeons, orthopedic surgeons, and family medicine physicians are markedly overrepresented, while certain other specialties are not represented at all.

Table 3. Physician-Legislator Specialties, US Physician Specialties, and Rates.

Specialty	Physician-Legislator Number (Percent)	US Physician Number (Percent)	Relative Rate
Anesthesiology	5 (5.3%)	40123 (5.5%)	0.96
Dermatology	0 (0.0%)	10820 (1.5%)	-
Diagnostic radiology	0 (0.0%)	27986 (3.9%)	-
Emergency medicine	8 (8.4%)	33984 (4.7%)	1.79
Family medicine*	31 (32.6%)	106549 (14.7%)	2.22
Internal medicine	9 (9.5%)	109048 (15.1%)	0.63
Internal medicine subspecialties	6 (6.3%)	94862 (13.1%)	0.48
Neurology	1 (1.1%)	12916 (1.8%)	0.61
Neurosurgery	2 (2.1%)	5047 (0.7%)	3.0
Obstetrics and gynecology	8 (8.4%)	40377 (5.6%)	1.5
Ophthalmology	3 (3.2%)	17943 (2.5%)	1.28
Orthopedic surgery	6 (6.3%)	19822 (2.7%)	2.33
Otolaryngology	2 (2.1%)	9232 (1.3%)	1.62
Pathology	0 (0.0%)	14975 (2.1%)	-
Pediatrics**	5* (5.3%)	63757 (8.8%)	0.60
Physical medicine and rehabilitation	0 (0.0%)	8503 (1.2%)	-
Plastic surgery	1 (1.1%)	6822 (0.9%)	1.22
Preventive medicine	0 (0.0%)	6824 (0.9%)	-
Psychiatry***	1 (1.1%)	45955 (6.4%)	0.17
Radiation oncology	0 (0.0%)	4459 (0.6%)	-
Surgery and surgical subspecialties	7 (7.4%)	33849 (4.7%)	1.6
Urology	0 (0.0%)	9826 (1.4%)	-
<i>Primary care</i>	<i>45 (47.4%)</i>	<i>279354 (38.6%)</i>	<i>1.23</i>
<i>Non-primary care</i>	<i>50 (52.6%)</i>	<i>444325 (61.4%)</i>	<i>0.86</i>

\*The one pediatric subspecialist was added to the pediatrics primary care physician-legislator group, as the AAMC physician data book did not enumerate pediatric subspecialists in most areas.

\*\*The numbers of US physicians practicing in the areas of internal medicine/pediatrics and neonatal-perinatal medicine were added to pediatrics.

\*\*\*The number of US physicians practicing in the area of child and adolescent psychiatry was added to psychiatry.

Table 4. Characteristics of Physician-Legislators as Compared to All U.S. Physicians.

Characteristic	Physician-Legislator Percent	U.S. Physician Percent
Gender		
Female	10.50%	<b>30.40%</b>
Male	<b>89.50%</b>	69.60%
Age		
54 or younger	31.10%	<b>59.70%</b>
55 or older	<b>68.90%</b>	40.30%
Physician type		
Allopathic	<b>86.30%</b>	69.10%
International medical graduate	3.20%	<b>24.00%</b>
Osteopathic	<b>9.50%</b>	6.90%
Medical specialty type		
Primary care	<b>46.30%</b>	38.00%
Non-primary care	53.70%	<b>62.00%</b>
Connection to state of election/practice		
Practicing in state of UME	<b>41.10%</b>	38.70%
Practicing in state of GME	40.20%	<b>47.90%</b>

Half the legislative bodies studied counted a physician among their members. State legislatures were more than twice as likely to have at least one physician member as to have no physician members. It was more common for a state legislature to have at least one physician in both chambers than to lack one altogether. Physician-legislators were over twice as likely to belong to the Republican Party as to the Democratic Party. Regardless of party affiliation, physician-legislators were overwhelmingly likely to be in their chamber's majority.

## **Future Directions**

The study will be submitted to a peer-reviewed journal. Data and analysis from the study will increase the understanding of physician-legislator characteristics. Legislative health policy affects every facet of medical training and practice.

In collaboration with Dr. Derksen, I plan to collect another data set in 2016 and compare it to the updated 2014 edition of the AAMC Physician Specialty Data Book. This will allow analysis of the change in physician-legislator characteristics over two time points. Concurrent with that study, I will collect information on allied health professionals elected to state legislatures and the U.S. Congress, to shed information on individuals from other disciplines who may also be impacting health policy and scope of practice legislation.

## **Conclusions**

An extensive literature review yielded scant data and few published peer-reviewed manuscripts on the characteristics of physician-legislators. That review revealed a dramatic decrease in physician-legislator representation over time. This study yielded important demographic and other information. The average U.S. physician-legislator was male, aged 55 years or older, graduated from a U.S. allopathic (M.D.) medical school, and a non-primary care physician. Women, younger physicians and international medical graduates are underrepresented among the physician-legislators compared to the U.S. population. At least one physician-legislator is a member of half the nation's major legislative bodies.

The study identified the pressing need to reverse the trend of plummeting physician-legislator representation, and to ensure that the physician-legislators elected better reflect the diversity of our nation in general, practicing physicians, and the constituents and patients they serve. Greater efforts are needed to train physicians in health and legislative policy, providing experiences in applied health policy such as researching and drafting legislation, participating in the rulemaking process for enacted state or federal legislation, informing health policy in state and federal legislative bodies by submitting written or giving oral testimony at legislative hearings, and running for office or re-election. It is also necessary to conduct further research and analysis to better identify factors that influence physician decisions to run for and serve in state legislatures and in the U.S. Congress.

## References

1. Jameson MG. Physicians and American political leadership. *JAMA*. 1983;249:929-930.
2. Kraus CK, Suarez, TA. Is there a doctor in the house?...or the senate?: Physicians in US Congress, 1960-2004. *JAMA*. 2004;292:2125-2129.
3. Tobey JA. Physician who served on the US Supreme Court. *JAMA*. 1959;170(1):109.
4. The Long Term Budget Outlook. 2009. Congressional Budget Office. Accessed 3/28/13 at: <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/102xx/doc10297/06-25-ltbo.pdf>.
5. Jolly P, Erikson C, Garrison G. U.S. graduate medical education and physician specialty choice. *Acad Med*. 2013;88:00-00.
6. Petterson SM, Liaw WR, Phillips RL, Rabin DL, Meyers DS, Bazemore AW. Projecting US primary care physician workforce needs: 2010-2025. *Ann Fam Med*. 2012;10:503-509.
7. Medicaid & CHIP: April 2015 Monthly Applications, Eligibility Determinations and Enrollment Report. Centers for Medicare & Medicaid Services. 6/23/15. Accessed 9/20/15 at: <http://www.medicaid.gov/medicaid-chip-program-information/program-information/downloads/april-2015-enrollment-report.pdf>.
8. Health Insurance Marketplaces 2015 Open Enrollment Period: March Enrollment Report. Department of Health and Human Services Office of the Assistant Secretary for Planning and Evaluation. 3/10/15. Accessed 9/20/15 at: [http://aspe.hhs.gov/sites/default/files/pdf/83656/ib\\_2015mar\\_enrollment.pdf](http://aspe.hhs.gov/sites/default/files/pdf/83656/ib_2015mar_enrollment.pdf).
9. Todd SR, Sommers BD. Overview of the Uninsured in the United States: A Summary of the 2012 Current Population Survey Report. Department of Health and Human Services Office of the Assistant Secretary for Planning and Evaluation. 9/12/12. Accessed 9/20/15 at: <http://aspe.hhs.gov/basic-report/overview-uninsured-united-states-summary-2012-current-population-survey-report>.
10. Cohen RA Martinez ME. Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey January-March 2015. National Center for Health Statistics. 8/15. Accessed 9/20/15 at: <http://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201508.pdf>.

11. Association of American Medical Colleges. Number of first-time medical school applicants reaches new high. 2011. Accessed 3/21/13 at: <https://www.aamc.org/newsroom/newsreleases/2011/264074/111024.html>.
12. Beck M: Squeeze Looms for Doctors. *Wall Street Journal*. 3/14/13. Accessed 3/21/13: <http://online.wsj.com/articleSB10001424127887324096404578356544137516914.html>.
13. Vorhees KI, Prado-Gutierrez A, Epperly T, Derksen D: A Proposal for Reform of the Structure and Financing of Primary Care Graduate Medical Education. *Fam Med*. 2013;45(3):164-70. Accessed 3/21/13 at: <http://www.stfm.org/fmhub/fm2013/MarchKenton164.pdf>.
14. Landers SH, Sehgal AR. How do physicians lobby their members of Congress? *Arch Intern Med*. 2000;160:3248-3251.
15. Beyer DC, Mohideen N. The role of physician and medical organizations in the development, analysis, and implementation of health care policy. *Semin Radiat Oncol*. 2008;18:186-193.
16. Schaffler HH, Wilkerson J. National health care reform and the 103<sup>rd</sup> Congress: The activities and influence of public health advocates. *Am J Public Health*. 1997;87:1107-1112.
17. Rabinowitz A, Laugesen M. Niche players in health policy: Medical specialty societies in Congress 1969-2002. *Soc Sci Med*. 2010;71:1341-1348.
18. American Board of Medical Specialties. Accessed 3/21/13 at: [http://www.abms.org/who\\_we\\_help/physicians/specialties.aspx](http://www.abms.org/who_we_help/physicians/specialties.aspx).
19. Jeffe DB, Andriole DA, Hageman HL, Whelan AJ. The changing paradigm of contemporary U.S. allopathic medical school graduates' career paths: Analysis of the 1997-2004 national AAMC graduation questionnaire database. *Acad Med*. 2007;82:888-894.
20. Newton DA, Grayson MS. Trends in career choice by US medical school graduates. *JAMA*. 2003;290:1179-1182.
21. Brotherton SE, Rockey PH, Etzel SI. US graduate medical education, 2004-2005: Trends in primary care specialties. *JAMA*. 2005;294:1075-1082.
22. Leigh JP, Tancredi D, Jerant A, Romano PS, Kravitz RL. Lifetime earnings for physicians across specialties. *Medical Care*. 2012;50:1093-1101.
23. Shea JA, Kletke PR, Wozniak GD, Polsky D, Escarce JJ. Self-reported physician specialties and the primary care content of medical practice: A study of the AMA physician masterfile. *Medical Care*. 1999;37:333-338.

24. Phillips JP, Petterson SM, Bazemore AW, Phillips RL. A retrospective analysis of the relationship between medical student debt and primary care practice in the United States. *Ann Fam Med*. 2014;12:542-549.
25. Vanasse A, Ricketts TC, Courteau J, Orzanco MG, Randolph R, Asghari S. Long term regional migration patterns of physicians over the course of their active practice careers. *Rural Remote Health*. 2007;7:812.
26. Association of American Medical Colleges. 2012 Physician specialty data book. 2012. Accessed 3/14/14 at <https://www.aamc.org/download/313228/data/2012physicianspecialtydatabook.pdf>.
27. Defining Primary Care. The National Academies Press. 1994. Institute of Medicine. Accessed 3/21/13 at: [http://www.nap.edu/openbook.php?record\\_id=9153&page=1](http://www.nap.edu/openbook.php?record_id=9153&page=1).