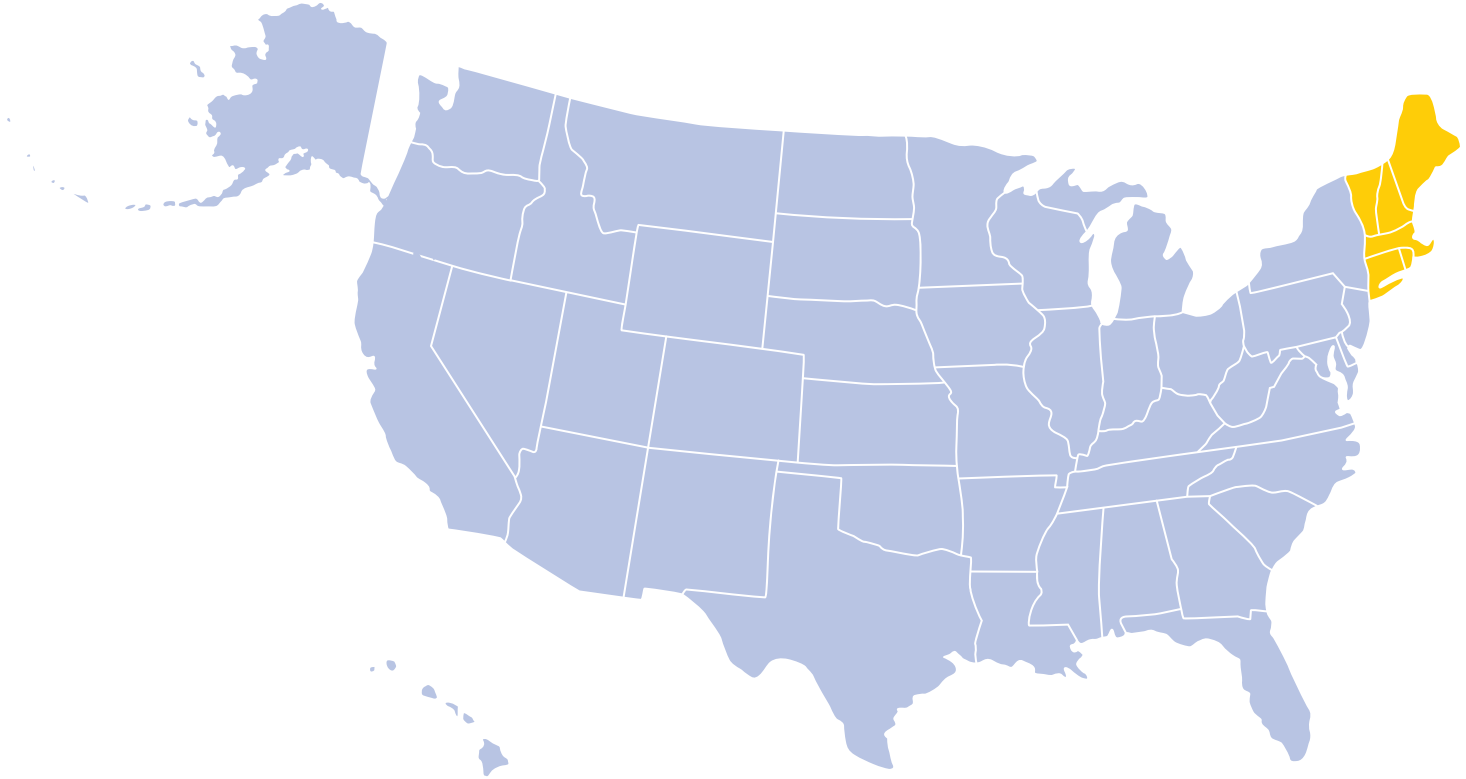
American Society of Anesthesiologists®

ANESTHESIA WORKFORCE SUMMARY

NEW ENGLAND CAUCUS



HEALTH POLICY RESEARCH DEPARTMENT

FEBRUARY 2015

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INTRODUCTION

The purpose of this report is to summarize the anesthesia workforce supply[1] in the Midwest Caucus states to help inform ASA member discussions on workforce trends and related issues. The information presented in this inaugural report is based on publicly available data from:

- the National Provider Identifier (NPI) dataset,
- the Medicare Physician Compare National Downloadable File (Physician Compare),
- the American Medical Association (AMA),

THREE MAJOR WORKFORCE DATA SOURCES

- an anesthesia workforce analysis by the RAND Corporation (RAND), and
- the U.S. Census Bureau.

The three workforce data sources used in this report (NPI, Physician Compare, and the AMA) are the likely sources used in most published reports on the anesthesia and perioperative workforce. The development and purpose of the data are different for each source and understanding these differences is essential for any review of information using these data. The NPI data are updated weekly; the Physician Compare dataset is as of December 2014; and AMA data represent 2013 information. Both the NPI and Physician Compare data include nurse anesthetists. The AMA data used in this report are derived from the AMA Physician Masterfile. APPENDIX A contains additional information about the three data sources used in this report.

This anesthesia workforce summary includes several state-level and inter-caucus comparisons. The composition of anesthesia practices within a local market may be quite different; and it is important to recognize these differences. The workforce summary can help caucuses better understand differences among their state members and identify regional and national trends. The data should prove useful for evaluating membership goals and understanding differences in policy priorities among states. This information can be supplemented with state society data and other local data sources to form a more accurate profile of the anesthesia workforce in the caucus states.

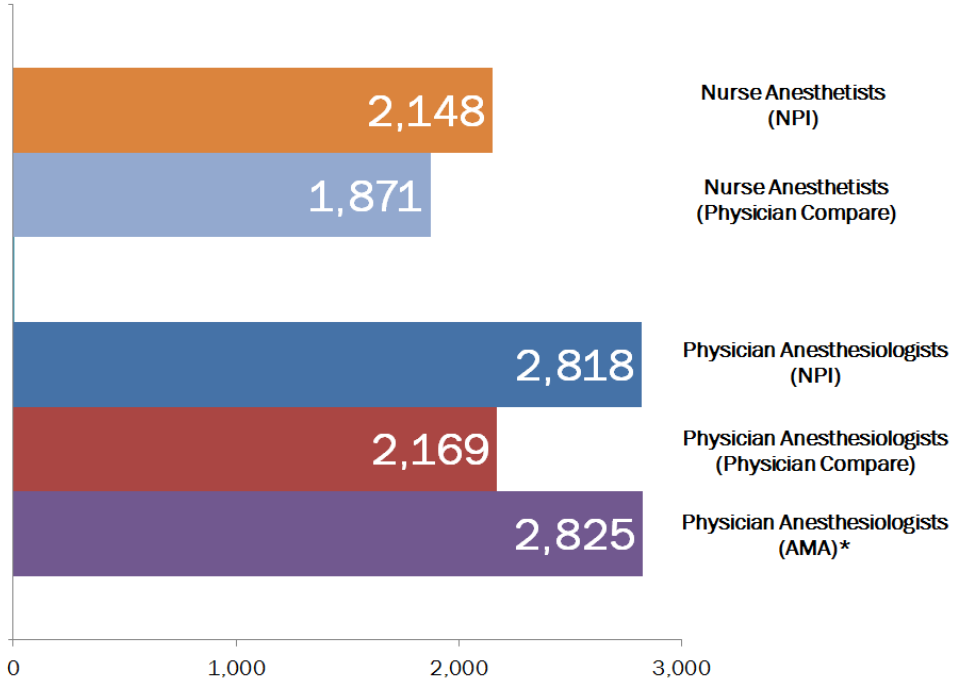
[1]The data reflect total counts for physician and nurse anesthesia professionals and not full-time equivalents (FTEs). That is, the workforce data are not adjusted to account for differences in work hours or productivity.

SUMMARY OF NEW ENGLAND ANESTHESIA WORKFORCE

Physician anesthesiologists and nurse anesthetists in the New England Caucus states account for 6.2 percent and 4.6 percent of their respective total workforces in the United States (U.S.) (based on NPI data).

FIGURE 1

NEW ENGLAND CAUCUS NURSE ANESTHETISTS AND PHYSICIAN ANESTHESIOLOGISTS BY DATA SOURCE

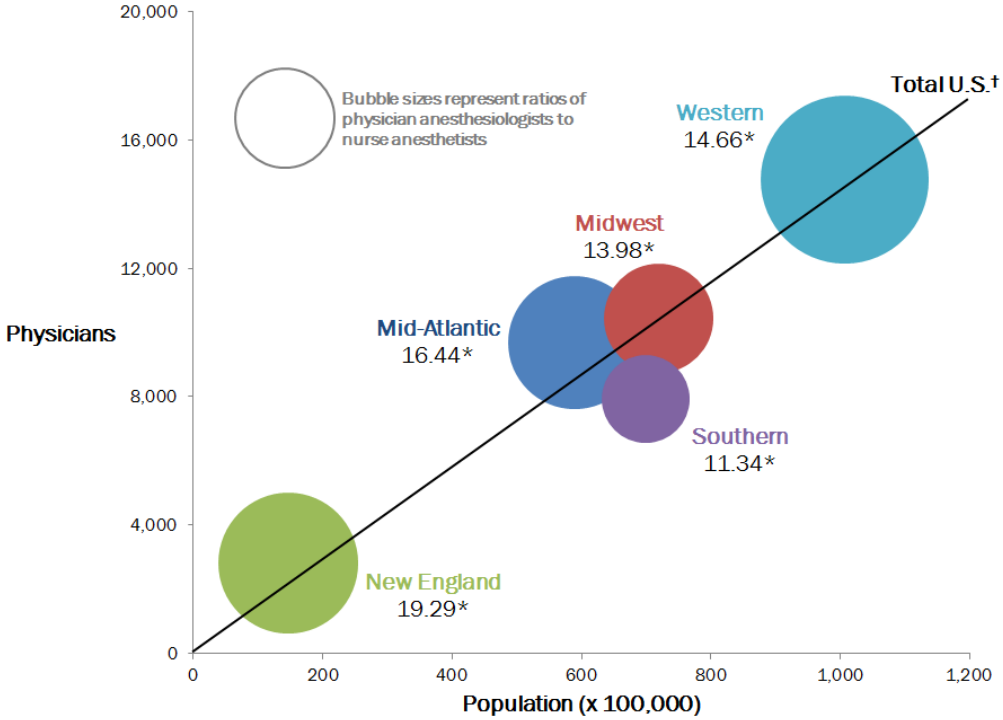


*Includes only physicians who self-reported as being involved in patient care activity.

FIGURE 1 compares anesthesia workforce counts between the three datasets used in this analysis. The ratio of physicians to nurses based on NPI and Physician Compare data are 1.31 and 1.16, respectively. The numbers of physician anesthesiologists in AMA and NPI data are close (<1% difference). The physician and nurse counts based on Physician Compare data are 77 and 87 percent of the NPI counts, respectively.

FIGURE 2

NUMBER OF PHYSICIANS, POPULATION AND WORKFORCE RATIOS BY CAUCUS, JANUARY 2015



New England Caucus Anesthesia Workforce Ratio	Compared to Rest of U.S., Is:
Physicians to Population	34% HIGHER
Nurses to Population	ABOUT THE SAME§
Physicians to Nurses	34% HIGHER
Total‡ to Population	15% HIGHER

§Less than 5 percent difference.
‡Total includes physician anesthesiologists, nurse anesthetists and anesthesiologist assistants.

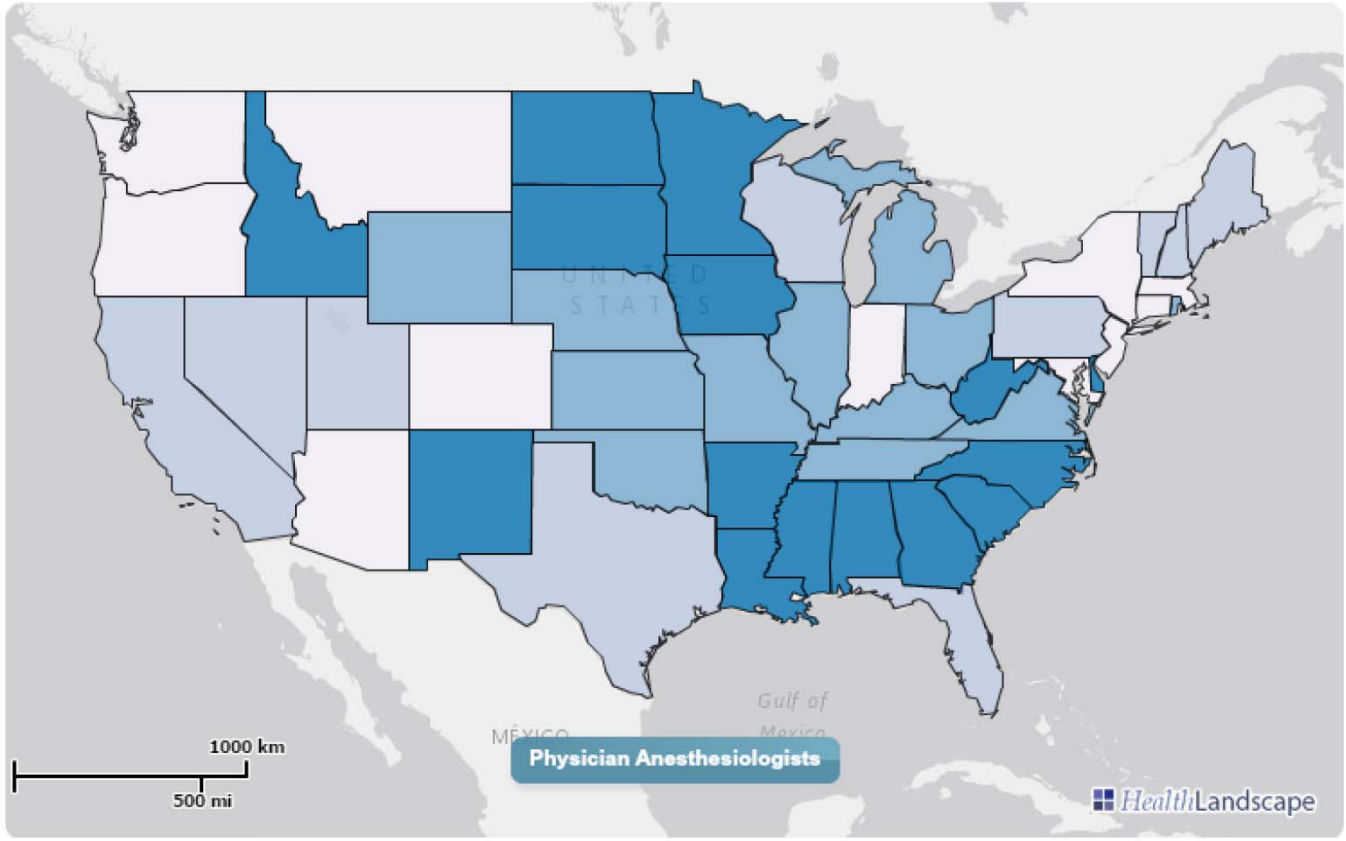
*Represents ratio of physicians per 100,000 population.
†Slope of line represents overall U.S. ratio of physicians per 100,000 population (14.44).

Sources: Workforce data from Medicare National Plan & Provider Enumeration System (NPPES). Population data from U.S. Census Bureau (estimates for July 2013). Calculations by ASA Health Policy Research Department.

FIGURE 2 compares physician anesthesiologist workforces across all five ASA caucuses, including ratios of physician anesthesiologists to population and to nurse anesthetists. The accompanying table compares anesthesia workforce ratios for the New England Caucus with the combined other four caucuses.

FIGURE 3

RATIO OF POPULATION TO PHYSICIAN ANESTHESIOLOGIST WORKFORCE BY STATE, 2013
Created with AMA Health Workforce Mapper



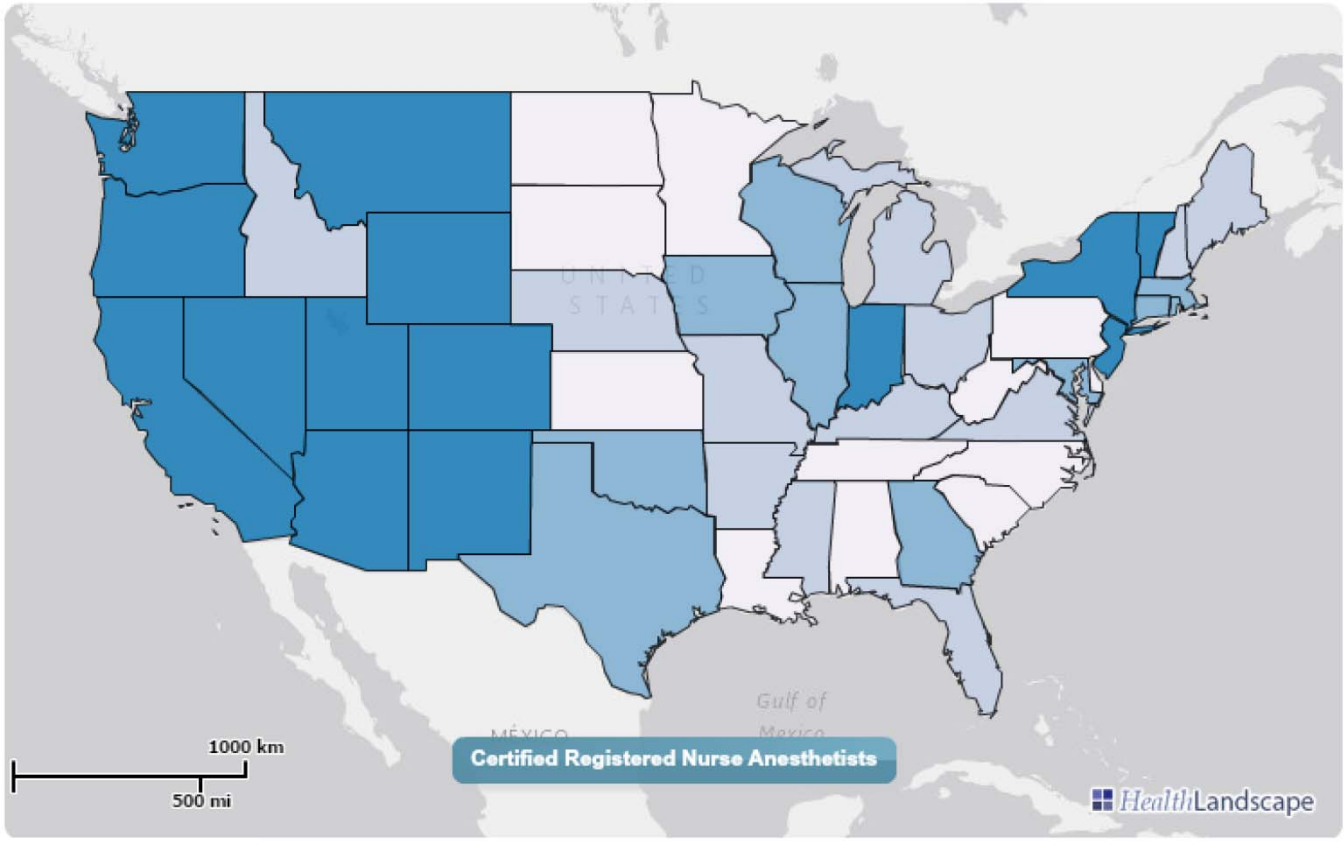
Population per Provider

- 2,686 to 7,056
- 7,142 to 7,925
- 8,246 to 9,976
- 10,077 to 14,251

Source: American Medical Association Health Workforce Mapper. Accessed February 18, 2015 from http://www.ama-assn.org/ama/priv/advocacy/state-advocacy-arc/health-workforce-mapper-a.page.

FIGURE 4

RATIO OF POPULATION TO NURSE ANESTHETIST WORKFORCE BY STATE, 2013
Created with AMA Health Workforce Mapper



Population per Provider

- 2,460 to 4,376
- 4,486 to 6,585
- 6,913 to 9,954
- 11,051 to 27,278

Source: American Medical Association Health Workforce Mapper. Accessed February 18, 2015 from http://www.ama-assn.org/ama/priv/advocacy/state-advocacy-arc/health-workforce-mapper-a.page.

NEW ENGLAND CAUCUS ANESTHESIA WORKFORCE PROFILE

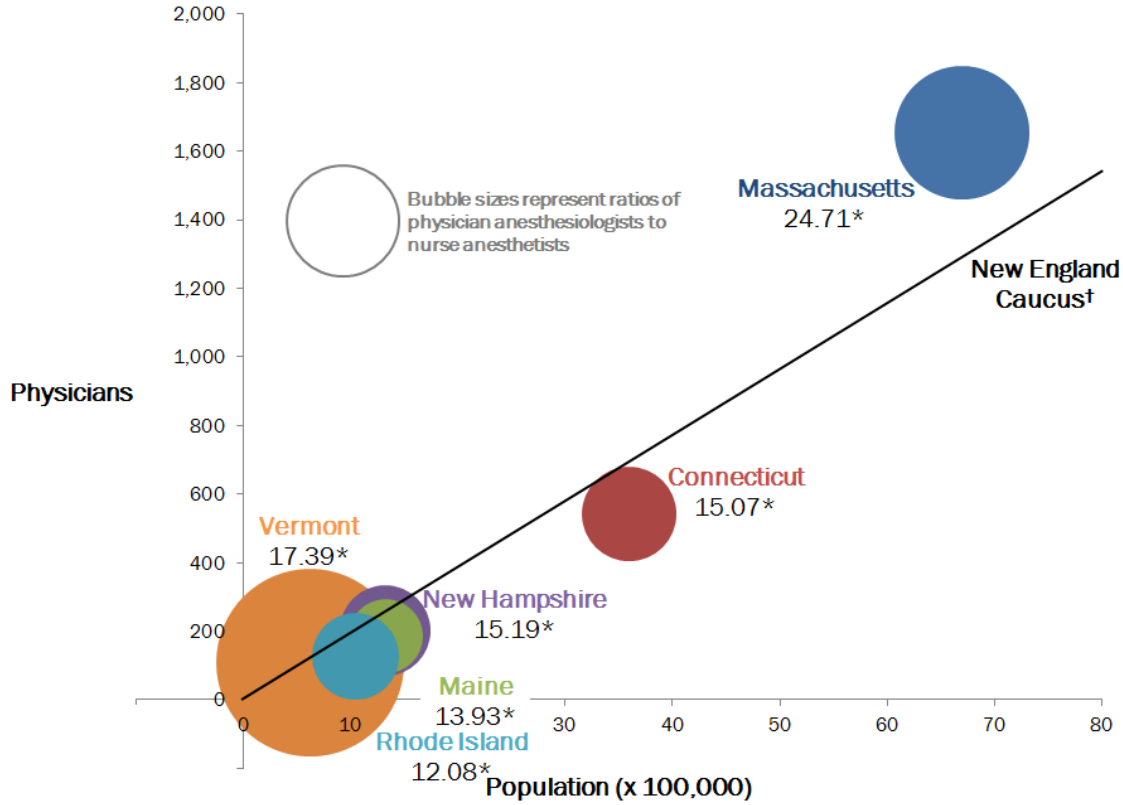
FIGURE 5 and TABLES 1-3 (pages 7-10) profile the anesthesia workforce based on the three datasets used in this report: NPI, Physician Compare, and AMA. Key observations are provided below.

- There is high variation by state[2].
  - Based on NPI data, the ratio of physicians to nurses ranges from 0.59 (ME) to 3.76 (VT).
  - Based on NPI data, the ratio of nurses to population ranges from 4.63 (VT) to 23.79 (ME).
  - Based on AMA data, the ratio of physicians to population ranges from 11.60 (RI) to 23.14 (MA). (Patient care physicians only)
- New Hampshire had the highest percentage increase in nurse anesthetists between December 2012 and January 2015.
- Vermont has the second-highest ratio of physicians to nurses in the U.S. (California has the highest; based on NPI data).

[2]Assessment by ASA Health Policy Research Department based on comparison of standard errors between caucuses.

FIGURE 5

NUMBER OF PHYSICIANS, POPULATION AND WORKFORCE RATIOS IN NEW ENGLAND CAUCUS BY STATE, JANUARY 2015



*Represents ratio of physicians per 100,000 population.
†Slope of line represents overall New England Caucus ratio of physicians per 100,000 population (19.28).

Sources: Workforce data from Medicare National Plan & Provider Enumeration System (NPPES). Population data from U.S. Census Bureau (estimates for July 2013). Calculations by ASA Health Policy Research Department.

FIGURE 5 compares physician anesthesiologist workforces across all 6 states in the New England Caucus, including ratios of physician anesthesiologists to population and to nurse anesthetists.

TABLE 1

ANESTHESIA WORKFORCE BASED ON NATIONAL PROVIDER IDENTIFIER (NPI) DATASET, JANUARY 2015

State	Number of Professionals		25-month Change (%)†		Ratio of Physicians to Nurses	Number per 100,000 Population		
	Physicians	Nurses	Physicians	Nurses		Physicians	Nurses	Total*
Connecticut	542	564	9.5	13.0	0.96	15.07	15.68	30.95
Maine	185	316	3.9	16.6	0.59	13.93	23.79	37.72
Massachusetts	1,654	853	7.0	12.5	1.94	24.71	12.74	37.50
New Hampshire	201	228	10.4	17.5	0.88	15.19	17.23	32.57
Rhode Island	127	158	9.5	10.5	0.80	12.08	15.03	27.20
Vermont	109	29	6.9	7.4	3.76	17.39	4.63	23.94
New England Caucus	**2,818**	**2,148**	**7.6**	**13.5**	**1.31**	**19.28**	**14.69**	**34.14**
Other Caucuses	**42,817**	**44,404**	**5.7**	**12.1**	**0.96**	**14.20**	**14.73**	**29.50**
Total U.S.	**45,635**	**46,552**	**5.8**	**12.1**	**0.98**	**14.44**	**14.73**	**29.72**

*Total includes physician anesthesiologists, nurse anesthetists and anesthesiologist assistants.
†Based on data for December 2012 and January 2015.

Sources: Workforce data from Medicare National Plan & Provider Enumeration System (NPPES). Population data from U.S. Census Bureau (estimates for July 2013). Calculations by ASA Health Policy Research Department.

TABLE 2

ANESTHESIA WORKFORCE BASED ON PHYSICIAN COMPARE, 2014

State	Number of Professionals		Ratio of Physicians to Nurses	Number per 100,000 Population		
	Physicians	Nurses		Physicians	Nurses	Total*
Connecticut	469	474	0.99	13.04	13.18	26.23
Maine	160	264	0.61	12.05	19.87	31.91
Massachusetts	1,199	777	1.54	17.92	11.60	29.54
New Hampshire	151	195	0.77	11.41	14.76	26.17
Rhode Island	99	118	0.83	9.37	11.27	20.64
Vermont	91	43	2.13	14.59	6.86	23.04
New England Caucus	**2,169**	**1,871**	**1.16**	**14.84**	**12.80**	**27.72**
Other Caucuses	**33,281**	**33,981**	**0.98**	**11.04**	**11.27**	**22.76**
Total U.S.	**35,450**	**35,853**	**0.99**	**11.21**	**11.34**	**22.99**

*Total includes physician anesthesiologists, nurse anesthetists and anesthesiologist assistants.

Sources: Workforce data from Medicare Physician Compare. Population data from U.S. Census Bureau (estimates for July 2013). Calculations by ASA Health Policy Research Department.

TABLE 3

ANESTHESIA WORKFORCE BASED ON AMERICAN MEDICAL ASSOCIATION (AMA) DATA, 2013

	Number of Physicians		Five-Year Change in Physicians (%)†		Physicians per 100,000 Population	
State	Total	Patient Care	Total	Patient Care	Total	Patient Care
Connecticut	681	651	15.2	14.0	18.94	18.10
Maine	181	176	4.6	3.5	13.63	13.25
Massachusetts	1,624	1,549	18.8	18.6	24.26	23.14
New Hampshire	209	203	9.4	9.1	15.79	15.34
Rhode Island	126	122	5.0	2.5	11.98	11.60
Vermont	126	124	14.6	15.9	20.11	19.79
New England Caucus	**2,947**	**2,825**	**15.5**	**14.9**	**20.16**	**19.32**
Other Caucuses	**42,987**	**41,910**	**9.0**	**8.9**	**14.26**	**13.90**
Total U.S.	**45,934**	**44,735**	**9.4**	**9.2**	**14.53**	**14.15**

†Based on AMA data for 2008 and 2013.

Sources: Workforce data from American Medical Association's *Physician Characteristics and Distribution in the US (2015 edition).* "Patient Care" numbers include physicians who self-reported as being involved in patient care activity. Population data from U.S. Census Bureau (estimates for July 2013). Calculations by ASA Health Policy Research Department.

ANESTHESIOLOGY AND SURGICAL[3] WORKFORCES IN THE NEW ENGLAND CAUCUS

TABLE 4 profiles the anesthesia and surgical workforces based on AMA and NPI data. Key observations are provided below.

- The New England Caucus has a lower ratio of physician anesthesiologists to GI physicians (gastroenterologists) than the rest of the U.S.
    - They have similar ratios of physician anesthesiologists to OB/GYN physicians, Other Surgeons and Total Surgeons compared to the rest of the U.S.
- There is relatively little variation in all anesthesia to surgical ratios between states.
    - **Vermont** is the exception, which has a substantially higher ratio of physician anesthesiologists to GI physicians than the rest of the New England Caucus.
- **Rhode Island** has the lowest ratios of anesthesia workforce to surgical workforce (across all ratios and both datasets).

Overall, there is 1 anesthesiologist for every 4 "surgical"[3] physicians.

[3]For purposes of this report, "surgical" also includes OB/GYN physicians and gastroenterologists.

TABLE 4

ANESTHESIOLOGY AND SURGICAL WORKFORCE RATIOS BASED ON NPI AND AMA DATASETS

	Ratios of Anesthesiologists to Surgeons Based on NPI Data, 2015				Ratios of Anesthesiologists to Surgeons Based on AMA Data*, 2013			
State	GI§	OB/GYN	Other Surgeons†	TOTAL	GI§	OB/GYN	Other Surgeons†	TOTAL
Connecticut	1.91	0.82	0.33	0.21	2.46	0.89	0.35	0.23
Maine	2.89	1.09	0.30	0.22	3.59	1.14	0.33	0.24
Massachusetts	2.88	1.37	0.40	0.28	3.02	1.38	0.42	0.29
New Hampshire	2.45	1.04	0.32	0.22	3.17	1.06	0.32	0.23
Rhode Island	1.53	0.69	0.21	0.15	1.91	0.58	0.22	0.15
Vermont	4.19	1.22	0.42	0.29	4.13	1.01	0.42	0.27
New England Caucus	**2.53**	**1.12**	**0.36**	**0.24**	**2.87**	**1.11**	**0.37**	**0.25**
Other Caucuses	**3.01**	**1.09**	**0.37**	**0.25**	**3.32**	**1.05**	**0.36**	**0.25**
Total U.S.	**2.97**	**1.09**	**0.37**	**0.25**	**3.29**	**1.06**	**0.36**	**0.25**

*Includes physicians who self-reported as being involved in patient care activity.

§Gastroenterology

†Other Surgeons include the following surgical specialties: Colon and Rectal Surgery, General Surgery, Neurological Surgery, Ophthalmology, Orthopedic Surgery, Otolaryngology, Plastic Surgery, Thoracic Surgery and Urology, and Transplant Surgery.

Sources: Medicare National Plan & Provider Enumeration System (NPPES) and American Medical Association's *Physician Characteristics and Distribution in the US (2015 edition)*. Calculations by ASA Health Policy Research Department.

NEW ENGLAND CAUCUS PAIN MEDICINE* WORKFORCE PROFILE

TABLE 5 profiles the pain medicine workforce based on NPI data. Key observations are provided below.

- Anesthesia pain physicians and pain medicine physicians in the New England Caucus states account for 4.5 and 2.8 percent of their respective total workforces in the U.S.
- The New England Caucus has a higher ratio of anesthesia pain physicians to pain medicine physicians than the rest of the U.S.
- The New England Caucus has lower ratios of pain medicine physicians and total pain physicians to population that the rest of the U.S.
    - They have a similar ratio of anesthesia pain physicians to population as the rest of the U.S.
- **Rhode Island** has the lowest ratios of pain physicians to population in the New England Caucus (for both subspecialties and total) by a relatively wide margin. **New Hampshire** has the highest ratio of anesthesia pain physicians to population by a wide margin.
    - There is relatively little variation in ratios of pain physicians to population among the rest of the states.
- **Vermont** was the only state with a decrease in the percentage of pain medicine physicians between December 2012 and January 2015.
- **New Hampshire** and **Rhode Island** had exceptionally high percentage increases in pain medicine physicians between December 2012 and January 2015.

*NOTE: For purposes of this report, the Pain Medicine workforce is based on the following primary NPI taxonomies: **Pain Medicine** (likely not an anesthesiologist: 208VP0014X, Interventional Pain Medicine; and 208VP0000X, Pain Medicine) and **Anesthesia Pain** (207LP2900X, Anesthesiology-Pain).

TABLE 5

PAIN MEDICINE* WORKFORCE BASED ON NPI DATASET, 2013

State	Number of Professionals		25-month Change (%)†		Ratio of Anesthesia Pain to Pain Medicine	Number per 100,000 Population		
	Anesthesia Pain	Pain Medicine	Anesthesia Pain	Pain Medicine		Anesthesia Pain	Pain Medicine	TOTALδ
Connecticut	29	19	16.00	5.56	1.53	0.81	0.53	1.33
Maine	12	9	20.00	12.50	1.33	0.90	0.68	1.58
Massachusetts	63	21	16.67	31.25	3.00	0.94	0.31	1.26
New Hampshire	22	9	-4.35	125.00	2.44	1.66	0.68	2.34
Rhode Island	3	2	-40.00	100.00	1.50	0.29	0.19	0.48
Vermont	5	2	0.00	-50.00	2.50	0.80	0.32	1.12
New England Caucus	**134**	**62**	**0.10**	**0.22**	**2.16**	**0.92**	**0.42**	**1.34**
Other Caucuses	**2,845**	**2,116**	**0.12**	**0.19**	**1.34**	**0.94**	**0.70**	**1.65**
Total U.S.	**2,979**	**2,178**	**0.12**	**0.19**	**1.37**	**0.94**	**0.69**	**1.63**

*For purposes of this report, the Pain Medicine workforce is based on the following primary NPI taxonomies: **Pain Medicine** (likely not an anesthesiologist: 208VP0014X, Interventional Pain Medicine; and 208VP0000X, Pain Medicine) and **Anesthesia Pain** (207LP2900X, Anesthesiology-Pain).

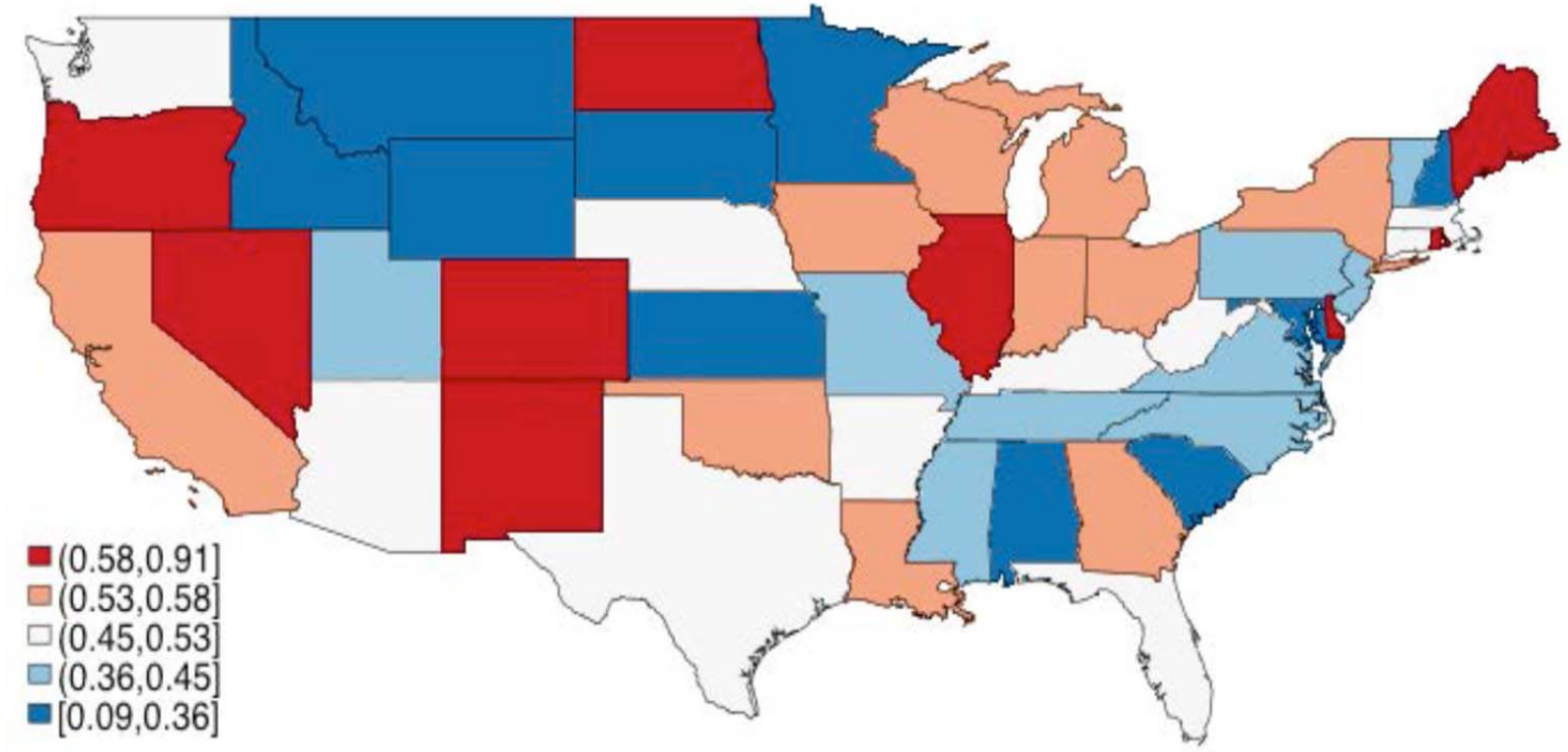
†Based on data for December 2012 and January 2015.

δTotal may not foot due to rounding.

Sources: Workforce data from Medicare National Plan & Provider Enumeration System (NPPES). Population data from U.S. Census Bureau (estimates for July 2013). Calculations by ASA Health Policy Research Department.

FIGURE 6

PROPORTION OF ANESTHESIOLOGISTS REPORTING A NEED FOR MORE ANESTHESIOLOGISTS* BY STATE
From 2014 RAND Research Report: *The Anesthesiologist Workforce in 2013*



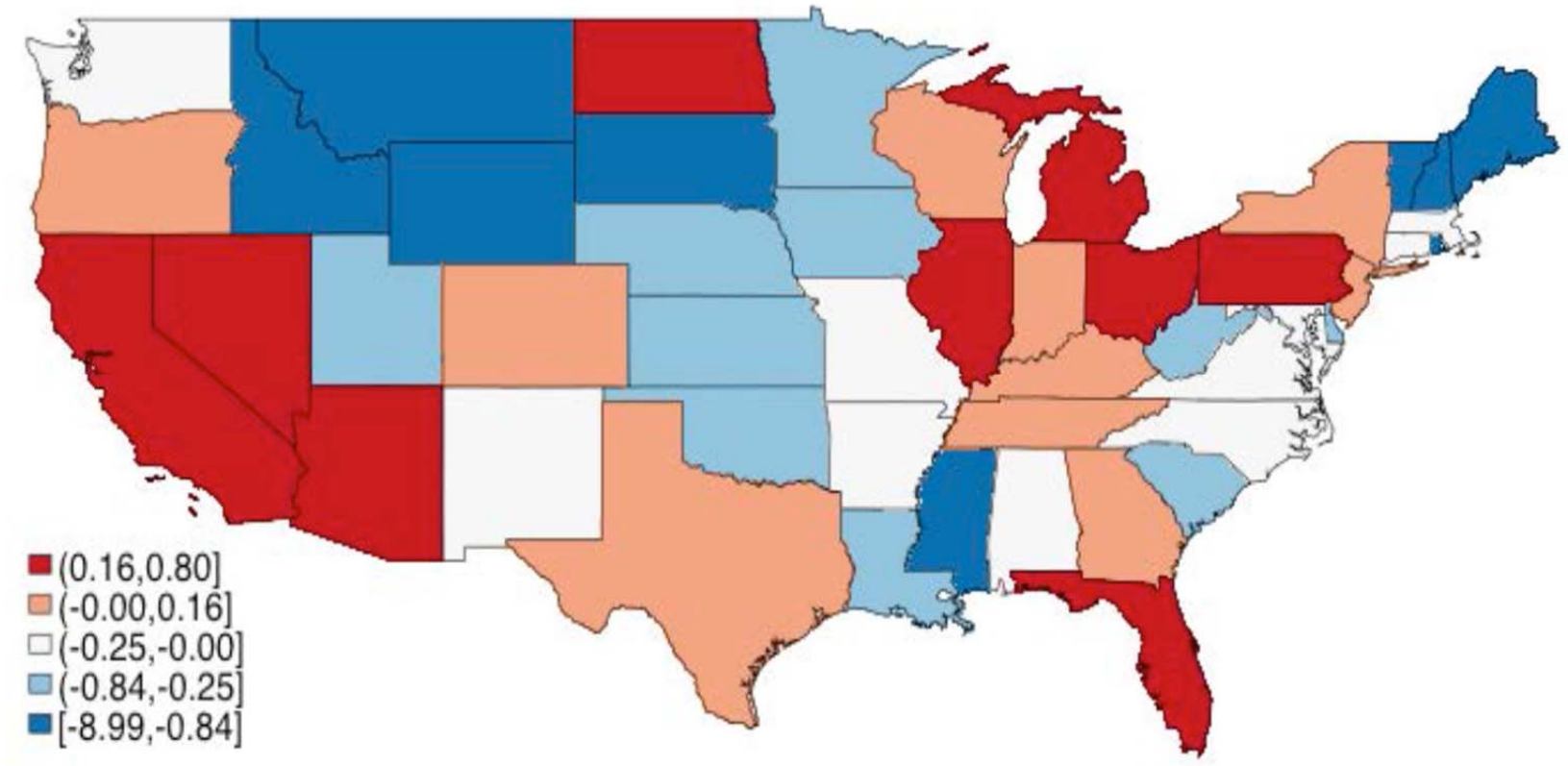
In the legend above, square brackets indicate that the endpoint number is included in the range; parentheses indicate that the endpoint is not included in the range.

*Defined as respondents who reported "My facility would prefer more anesthesiologists to cover current demand."

Source: The RAND Corporation: *The Anesthesiologist Workforce in 2013*. RAND Research Report 2014. [http://www.rand.org/pubs/research_reports/RR650.html]

FIGURE 7

SHORTAGE OF ANESTHESIOLOGISTS BY STATE
From 2014 RAND Research Report: *The Anesthesiologist Workforce in 2013*



NOTES: Based on results from a survey conducted by RAND in April and May of 2013. The numbers in the bracket represent the shortage of anesthesiologists divided by the total number of anesthesiologists in the state (full time equivalents). RAND aggregated a series of shortage indicators from their survey (e.g. facility prefers more anesthesiologists, number of open anesthesiologist positions, elasticity of labor supply, change in wages) into a single shortage variable which they used to estimate the probability that a state is in shortage. Dark red states have a shortage, while darker blue states have a greater surplus. In the legend, square brackets indicate that the endpoint number is included in the range; parentheses indicate that the endpoint is not included in the range.

Source: The RAND Corporation: *The Anesthesiologist Workforce in 2013*. RAND Research Report 2014. [http://www.rand.org/pubs/research_reports/RR650.html]

Health Policy Research Department and Supplemental Information

The ASA Health Policy Research Department (HPRD) will provide regular updates to the caucus workforce summaries. If you have any questions or feedback regarding this inaugural report or the data upon which it is based, please email an HPRD staff member listed below or send your comments, suggestions and questions to ask.HPR@asahq.org. Additional anesthesia workforce data may be available through state medical boards and societies. HPRD encourages ASA members to reach out to these organizations to identify available resources.

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Additional references for selected supplemental workforce information are provided on the following page.

For information about other ongoing HPR projects, visit:
http://www.asahq.org/resources/quality-improvement/health-policy-research/hpr-projects

To view HPR Policy Briefs, NEWSLETTER Articles, Reports and other documents, visit:
http://www.asahq.org/resources/quality-improvement/health-policy-research/hpr-resources

Selected Additional Workforce References

Brief Description	Reference
ACGME Resource Book	Accreditation Council for Graduate Medical Education: ACGME Data Resource Book, Academic Year 2013-2014. 2014: Chicago, IL.
AAMC: Two reports	Association of American Medical Colleges (www.aamc.org/data/workforce) (1) 2013 State Physician Workforce Data Book. 2013: Washington, DC. (2) Recent Studies and Reports on Physician Shortages in the US. 2012: Washington, DC.
Example of state analysis: CA	California HealthCare Foundation (www.chcf.org/publications/2014/03/california-physicians) California Physicians: Surplus or Scarcity? 2014: Oakland, CA.
JAMA article	Cooper RA: Unraveling the physician supply dilemma. JAMA 2013;310(18):1931-2.
Anesthesia job postings	GasWork.com (www.gaswork.com/section/Anesthesiologist)
Example of state analysis: MA	Massachusetts Medical Society. (www.massmed.org/workforce2013) 2013 MMS Physician Workforce Study.
Article by ASA member	Schubert A, Eckhout GV, Ngo AL, Tremper KK, Peterson MD: Status of the anesthesia workforce in 2011: Evolution during the last decade and future outlook. Anesthesia and Analgesia 2012; 115(2):407-27.
Resource and example of state analysis: NY	State University of New York at Albany Center for Health Workforce Studies (http://chws.albany.edu) New York Physician Supply and Demand through 2030. 2009: Albany, NY.
Resource: BLS	United States Bureau of Labor Statistics (www.bls.gov).
HRSA report on methodology in workforce studies	United States Department of Health and Human Services, Health Resources and Services Administration, Council on Graduate Medical Education Resource Paper: Evaluation of Specialty Physician Workforce Methodologies. 2000: Washington, DC.
HRSA report noting shortages	United States Department of Health and Human Services, Health Resources and Services Administration: Physician Supply and Demand: Projections to 2020. 2006: Washington, DC.
Resource	University of North Carolina Cecil G. Sheps Center for Health Services Research (www.healthworkforce.unc.edu).
Example of state analysis: UT	Utah Medical Education Council (www.utahmec.org) Utah's Physician Workforce, 2012: A Study on the Supply and Distribution of Physicians in Utah. 2012.
State medical boards data	Young A, Chaudhry HJ, Rhyne J, Dugan M: A census of actively licensed physicians in the United States, 2010. Journal of Medical Regulation 2011; 96(4):10-20.

APPENDIX A
DESCRIPTIONS OF DATA SOURCES

DESCRIPTIONS OF DATA SOURCES

NPPES Downloadable File (https://nppes.cms.hhs.gov) NOTE: ASA HPRD has monthly data beginning December 2012	Established as a standard in 2004, the National Provider Identifier (NPI) is a 10-digit unique identification number assigned to health care providers created to improve electronic transmission of health information. NPI identifiers are assigned, maintained and updated using the National Plan & Provider Enumeration System (NPPES) which disseminates the NPPES Downloadable File. Downloadable files are available as full replacement monthly files or weekly incremental files. NPI Taxonomies used for this report: (The professional's primary taxonomy was used to assign the specialty.) **Anesthesiologist Assistant** (367H00000X), **Anesthesiology Pain** (207LP2900X), **Nurse Anesthetist** (367500000X), **Pain Medicine** (208VP0014X, 208VP0000X), **Physician Anesthesiologist** (207L00000X, 207LA0401X, 207LC0200X, 207LH0002X, 207LP30000X), **Surgeon** (208C00000X, 207T00000X 207W00000X, 204E00000X, 207X00000X, 207XS0114X, 207XX0004X, 207XS0106X, 207XS0117X, 207XX0801X, 207XP3100X, 207Y00000X, 207YS0123X, 207YX0602X, 207YX0905X, 207YX0901X, 207YP0228X, 207YX0007X, 207YS0012X, 208200000X, 2082S0099X, 2082S0105X, 208600000X, 2086S0120X, 2086S0122X, 2086S0105X, 2086S0102X, 2086X0206X, 2086S0127X, 2086S0129X, 208G00000X, 204F00000X, 208800000X, 2088F0040X, 2088P0231X), **Gastroenterology** (207RG0100X, 2080P0206X), and **OB/GYN** (207V00000X, 207VB0002X, 207VF0040X, 207VX0201X, 207VG0400X, 207VM0101X, 207VX0000X).
Physician Compare National Downloadable File (www.medicare.gov/physiciancompare) NOTE: Only 2013 dataset is available as of Feb 2015.	The Physician Compare National Downloadable file contains data about physicians and other health care professionals currently enrolled in Medicare. This file is an extension of the Physician Compare website established by the Centers for Medicare & Medicaid Services (CMS) as required by the Section 10331 of the Patient Protection and Affordable Care Act (ACA) of 2010. This information is being made available to help consumers make informed decisions and to improve physician performance. The Physician Compare data was first made available to the public in March 2014 and is updated quarterly. Specialties used for this report: Anesthesiology, Certified Registered Nurse Anesthetist, and Anesthesiologist Assistant
American Medical Association Physician Masterfile (www.ama-assn.org/go/masterfile)	Established in 1906, the AMA Physician Masterfile includes current and historical data for over 1.4 million physicians, residents and medical students in the U.S. Physicians are presented with their Masterfile information and asked to submit updates through electronic or written methods. It is maintained by the AMA Division of Survey and Data Resources. The AMA aggregates data from the Physician Masterfile into *Physician Characteristics and Distribution in the U.S.*, an annual publication that includes a variety of data elements about national, international and state physician workforces. Specialties used for this report: Anesthesiology, Colon and Rectal Surgery, Gastroenterology, General Surgery, Neurological Surgery, Obstetrics & Gynecology, Ophthalmology, Orthopedic Surgery, Otolaryngology, Plastic Surgery, Thoracic Surgery, and Transplant Surgery.

APPENDIX B
SUPPLEMENTAL DATA: POPULATION AND SURGICAL WORKFORCE

TABLE B1

2013 POPULATION BY STATE AND CHANGE FROM 2008

State	2013 Population			Five-Year Change in Population (%)†	
	Total	65+	%65+	Total	65+
Connecticut	3,596,080	545,671	15.2	2.7	14.2
Maine	1,328,302	235,067	17.7	0.9	18.0
Massachusetts	6,692,824	989,312	14.8	3.0	13.6
New Hampshire	1,323,459	203,205	15.4	0.6	19.5
Rhode Island	1,051,511	162,814	15.5	0.1	10.3
Vermont	626,630	102,473	16.4	0.9	18.3
New England Caucus	**14,618,806**	**2,238,542**	**15.3**	2.2	14.6
Other Caucuses	**301,510,033**	**42,465,532**	**14.1**	**4.1**	**15.0**
Total U.S.	**316,128,839**	**44,704,074**	**14.1**	**4.0**	**15.0**

†Based on U.S. Census population estimates for July 2008 and July 2013.

Source: U.S. Census Bureau (estimates for July 2013 and July 2008). Calculations by ASA Health Policy Research Department.

TABLE B2

SURGICAL WORKFORCE BASED ON NPI AND AMA DATA

	Number of Surgeons Based on NPI Data, 2015				Number of Surgeons Based on AMA Data*, 2013			
State	GI§	OB/GYN	Other Surgeons†	TOTAL	GI§	OB/GYN	Other Surgeons†	TOTAL
Connecticut	284	665	1,636	2,585	265	735	1,834	2,834
Maine	64	170	614	848	49	154	541	744
Massachusetts	575	1205	4,159	5,939	513	1123	3,719	5,355
New Hampshire	82	194	622	898	64	192	625	881
Rhode Island	83	184	605	872	64	212	550	826
Vermont	26	89	257	372	30	123	298	451
New England Caucus	**1,114**	**2,507**	**7,893**	**11,514**	**985**	**2,539**	**7,567**	**11,091**
Other Caucuses	**14,230**	**39,252**	**116,659**	**170,141**	**12,611**	**39,836**	**116,291**	**168,738**
Total U.S.	**15,344**	**41,759**	**124,552**	**181,655**	**13,596**	**42,375**	**123,858**	**179,829**

*Includes physicians who self-reported as being involved in patient care activity.

§Gastroenterology

†Other Surgeons include the following surgical specialties: Colon and Rectal Surgery, General Surgery, Neurological Surgery, Ophthalmology, Orthopedic Surgery, Otolaryngology, Plastic Surgery, Thoracic Surgery and Urology, and Transplant Surgery.

Sources: Medicare National Plan & Provider Enumeration System (NPPES) and American Medical Association's *Physician Characteristics and Distribution in the US (2015 edition)*. Calculations by ASA Health Policy Research Department.