2012 MMS Physician Workforce Study

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Massachusetts Medical Society

Every physician matters, each patient counts.

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Executive Summary

The 2012 Massachusetts Medical Society (MMS) Physician Workforce Study provides current and trend data on physician shortages in Massachusetts, including issues with physician recruitment and retention. The study also examines the Massachusetts physician satisfaction, career plans, as well as physician opinions on health care reform and professional liability.

The MMS, with the assistance of prominent labor economists, completed this year's study that builds upon the results of the previous ten years of Physician Workforce Studies. Given the wide scope of the project, primary and secondary data were used to examine issues affecting the Massachusetts physician workforce. Data were collected in the winter and spring of 2012.

MMS conducted the following primary research:

- A survey of a random sample of practicing physicians throughout Massachusetts
- A survey of department chiefs of teaching hospitals in Massachusetts
- A survey of medical staff presidents in Massachusetts
- A telephone survey of physician offices in Massachusetts regarding appointment wait times
- Survey of practicing physicians

A survey was mailed to 8,052 practicing physicians in January 2012. The survey was mailed to those physicians licensed through the Commonwealth of Massachusetts Board of Registration in Medicine who have a full and active license and a primary business address in Massachusetts. The survey mailing included both MMS members and nonmembers who were randomly selected from 18 specialties (anesthesiology, cardiology, dermatology, emergency medicine, gastroenterology, general surgery, internal medicine and family medicine (primary care), neurology, neurosurgery, OB/GYN, oncology, orthopedics, pediatrics, psychiatry, radiology, urology and vascular surgery).

Physician Labor Shortages

In order to categorize whether labor market shortages are critical or severe, six questions were identified in the survey of practicing physicians to serve as a proxy for physician shortages. These six key questions with established targets for severe and critical shortages, included:

- Is the current pool of physician applicants adequate to fill your vacant positions or expand your practice?
- Are you currently experiencing difficulty filling physician vacancies?
- Have physician supply problems made it necessary for you to alter the services you provide (e.g., volume or mix of services)?
- Have physician supply problems made it necessary to adjust your professional staffing patterns?
- Based on your current experience, on average, how long does it take to recruit a physician for your practice?
- Over the past three years, has the amount of time needed to recruit physicians changed?

Physician labor markets continued to be tight in 2012. In the 2012 MMS Workforce Study, seven physician specialties satisfied the statistical criteria of operating in either critical or severe labor markets. Four specialties, namely internal medicine, psychiatry, urology, and neurosurgery, are considered to be in "critical" shortage in 2012 based on the aforementioned criteria. Three specialties, including dermatology, family medicine, and general surgery, are in "severe" shortage in 2012 in Massachusetts.

While physician labor markets continued to be tight in 2012, fortunately, fewer physicians report seeing an increase in recruiting time for physicians in their practice specialty. Moreover, in 2012, fewer physicians report seeing an inadequate pool of applicants for physician positions in their specialty. The 2012 study finds that the percentage of physicians having difficulty filling vacant positions in their specialty has declined slightly from 2011 to 2012. In addition, the results of the study indicate there has been a significant convergence between those physicians who are very satisfied or satisfied with the current practice environment with those who are very dissatisfied or dissatisfied with the current practice environment.

The Physician Workforce Study also examines the survey responses from department chiefs at teaching hospitals and medical staff presidents at community hospitals. Findings include that teaching hospitals have less difficulty recruiting and retaining physicians, while community hospitals often face competitive disadvantages when operating in physician labor markets. These results are consistent with earlier MMS survey results on labor market issues with which community hospitals are confronted.

Conclusions and Recommendations

Massachusetts is a model for health reform for the nation. While access to care has improved, universal health insurance coverage in Massachusetts can only be sustained if there is a strong physician workforce. To accomplish this, a number of changes to the health environment must take place.

Health care stakeholders must continue to work collaboratively on key issues in order to secure a strong physician workforce that will deliver coordinated, high-quality, and cost-effective care.

Health care stakeholders must advocate for physician workforce policies that secure a fair and equitable health care system, which includes support for the proper technology and resources to maintain the right infrastructure, access to essential quality, utilization and cost data and support for appropriate flexibility as the system evolves. If physicians believe that practice viability is unsustainable under a new health care system, Massachusetts may experience further recruitment and retention problems.

Introduction

The 2012 Massachusetts Medical Society (MMS) Physician Workforce Study provides current and trend data on physician shortages in Massachusetts, including issues with physician recruitment and retention. The study also examines the Massachusetts physician satisfaction, career plans, as well as physician opinions on health care reform and professional liability. Such an assessment of the current status of access to care in Massachusetts provides valuable information, demonstrating Massachusetts health care reform as a model for the nation. As a primer, we present background information on the current status of the physician workforce nationally and statewide.

National Physician Workforce

With the passage of the Patient Protection and Affordable Care Act (ACA),[1] state and federal governments are preparing to implement significant changes to the health care world. While this new mandate will provide health coverage to over 32 million uninsured Americans, the law will also strain the abilities of the current physician population, one that is already responding to an increased number of Americans over the age of 65.[2] With such large-scale changes imminent, the state of the national physician workforce is of increased importance.

There are changes to the physician workforce, which include an increase in employed physicians. Recent data produced by The Merritt Hawkins 2011 Review of Physician Recruiting Incentives[3] states that hospitals continue to employ physicians in ever greater numbers. In fact, approximately 56% of the firm's physician search assignments in 2011 were for hospital positions for physicians (Table A).

Table A. Medical Settings of Physician Search Assignments

	2010/11	2009/10	2008/09	2007/08	2006/07
Hospital	1,495 (56%)	1,430 (51%)	1,481 (45%)	1,416 (45%)	1,297 (43%)
Group	505 (19%)	674 (24%)	953 (29%)	1,170 (37%)	1,058 (35%)
Solo	54 (2%)	114 (4%)	362 (11%)	159 (5%)	244 (8%)
Partnership	344 (13%)	338 (12%)	428 (13%)	226 (7%)	238 (8%)
Association	82 (3%)	58 (2%)	4 (<1%)	29 (1%)	99 (3%)
Other	87 (7%)	195 (7%)	66 (2%)	134 (4%)	74 (2%)

Table A illustrates that from 2006 to 2011 there is an increase in advertisements for hospital based physicians and a decrease in physicians who are considered solo-practitioners from 2006

[1] Patient Protection and Affordable Care Act. Pub L No. 111-148, 124 Stat 119-1025.
[2] American Academy of Medical Colleges (AAMC). (2010). Physician Shortages to Worsen Without Increases in Residency Training. AAMC Center for Workforce Studies. Accessed on July 10, 2012 at https://www.aamc.org/download/150612/data/md-shortage.pdf.
[3] Merritt Hawkins (2011). 2011 Review of Physician Recruiting Incentives: An Overview of the Salaries, Bonuses, and Other Incentives Customarily Used to Recruit Physicians. 2011 Merritt Hawkins, Irving, Texas. Accessed on July 12th, 2012. http://www.merritthawkins.com/pdf/mha2011incentivesurvPDF.pdf

to 2011. Please note in the above table "other" refers to Community Health Centers (CHCs), life insurance companies, health system subsidiaries, publicly traded corporations, and health maintenance organizations (HMOs).

Given the changing payment environment in health care, the volume of search assignments for certain specialists has substantially decreased. While five years ago radiologists, cardiologists and anesthesiologists were amongst the most-requested Merritt Hawkins search assignments, these specialties barely rank in the top twenty search assignments for 2011, as listed below in Table B.

Table B. Top 20 Most Requested Physician Searches by Medical Specialty

	2010/11	2009/10	2008/09	2007/08	2006/07
Family Practice (Includes Family Practice/OB)	532	375	595	492	303
Internal Medicine	295	246	391	314	273
Hospitalist	160	124	169	208	194
Psychiatry	133	179	122	106	81
Orthopedic Surgery	104	88	147	145	172
Emergency Medicine	92	116	86	90	91
OB/GYN	80	69	137	159	159
Neurology	79	49	87	84	58
General Surgery	69	61	152	81	121
Pediatrics	64	84	93	72	63
Urology	56	44	78	74	63
Dermatology	48	23	45	35	45
Hematology/Oncology	35	21	57	46	59
Gastroenterology	32	41	78	68	78
Pulmonology	32	32	83	48	29
Otolaryngology	31	32	54	47	56
Radiology	27	63	74	109	187
Cardiology	26	58	103	69	163
Anesthesiology	21	37	48	52	46
Endocrinology	19	15	24	23	25

Table B illustrates the top twenty most-requested physician searches by medical specialty as found by Merritt Hawkins most recently in 2011. As one can see from Table B, family practice, internal medicine, emergency medicine, orthopedic surgery, obstetrics and gynecology, hematology and oncology, dermatology, neurosurgery, general surgery, and hospitalist searches increased from 2009/10 to 2010/11.

National Physician Shortages

While some care providers continue to increase their employment rates, the overall United States physician workforce has been steadily declining. Current research projections indicate an overall reduction in the number of physicians of over 90,000 by 2020.[4]

Generally, the most in-demand physician specialties are also those with the least availability. Merritt Hawkins and Associates, a national physician recruiting company, has tracked physician recruitment annually over the past 18 years. The Merritt Hawkins review indicates that the demand for physicians remains strongest in primary care, on a national basis. For the sixth consecutive year, family practice and general internal medicine were Merritt Hawkins' top two most requested physician search assignments.[5]

The 2012 MMS Physician Workforce Study has identified the fields of internal medicine and family medicine as facing either a critical or severe shortage over the last seven years in Massachusetts. The implications of these strained specialties nationally are parallel to those indicated by the Massachusetts data: more insured patients will create a national demand that potentially cannot be met by the current supply of practicing physicians.[6]

Addressing these health worker shortages is a concern when considering the implications of the Affordable Care Act, as well as the implications of the Massachusetts health reform bill of 2006. For example, in Massachusetts, the percentage of insured residents has increased to 97% over the past five years; however, 32.8% of insured patients indicated a problem obtaining health care in the past year.[7] On a national scale, a similar problem will likely surface, given the number of physicians. While these shortages impact physician practices and practice loads, they are even more severe for patients seeking care. [8]

Massachusetts Physician Workforce

Massachusetts continues to maintain a very high quality and relatively robust physician workforce. In addition to our research and academic excellence, we have a progressive health care environment. The state of Massachusetts enacted a universal health care law in 2006, one serving as a blueprint for the national health reform plan put into place by the Affordable Care Act in 2010. In July 2011, the *American Journal of Preventive Medicine* published a study that found that Massachusetts' health reform efforts have effectively increased access to health care

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[4] Association of American Medical Colleges. 2010. Physician shortages to worsen without increases in residency training. Rep. Assoc. Am. Med. Coll., Washington, DC. Accessed on July 11, 2012. https://www.aamc.org/download/150584/data/physician_shortages_factsheet.pdf.

[5] Merritt Hawkins (2011). 2011 Review of Physician Recruiting Incentives: An Overview of the Salaries, Bonuses, and Other Incentives Customarily Used to Recruit Physicians. 2011 Merritt Hawkins, Irving, Texas. Accessed on July 12th, 2012. http://www.merritthawkins.com/pdf/mha2011incentivesurvPDF.pdf

[6] Lowrey A and Pear R (2012). Doctor Shortage Likely to Worsen With Health Law. New York Times. Published July 28th, 2012. Accessed on July 30th, 2012 via: http://www.nytimes.com/2012/07/29/health/policy/too-few-doctors-in-many-us-communities.html?_r=2&hpw

[7] Kirch DG, Henderson MK, Dill MJ. (2012). Physician Workforce Projections in an Era of Health Care Reform. Annu. Rev. Med. 63: 435-45. Assoc. Am. Med. Coll., Washington, DC.

[8] Weldon T. 2008. Physician shortages and the medically underserved. Rep. Counc. State Gov., Lexington, KY, Aug. http://www.csg.org/knowledgecenter/docs/TIA_PhysicianShortage_Final_screen.pdf

and reduced health disparities.[9] The research found that approximately three years after being enacted in 2006, Massachusetts health reform was associated with a 7.6% increase in health insurance among residents, 4.8% decrease in those forgoing health care due to cost, and a 6.6% increase in residents having a primary care physician. The study also noted that these improvements were most evident among socioeconomically disadvantaged groups. While this is good news for the state, universal health insurance coverage in Massachusetts needs a strong physician workforce to be sustained.

Massachusetts Physician Shortages

As noted in this year's edition of the Physician Workforce Study, seven physician specialties are currently presenting with workforce shortages for 2012. Internal medicine, urology, psychiatry, family medicine, dermatology, neurosurgery, and general surgery have all been highlighted as facing either "critical" or "severe" shortages. Of these specialties, internal medicine, urology, and psychiatry continued their trend from 2011, with no change reported between the two years in critical status. Family medicine, dermatology, and general surgery also displayed no significant change in status, and remained at "severe" shortage levels. Neurosurgery, however, moved from "severe" to "critical" physician shortages, making this specialty significantly worse off in 2012 than 2011. All other specialties were not listed facing significant labor market shortages.

Projected Physician Workforce

According to the Bureau of Labor Statistics (BLS), employment of physicians is projected to grow 24% from 2010 to 2020, much faster than the average for all occupations. The BLS projects that the numeric change in employment for physicians will increase by 168,300 physicians from 2010 to 2020.[10]

The BLS predicts that physician job growth will occur as a result of continued expansion in health- related industries. Moreover, the aging U.S. population, coupled with the increase in U.S. residents that now receive health insurance through the Affordable Care Act, will continue to push demand for physician services. Along with an upturn in the overall population, the number of older Americans will continue to grow as people live longer, and they will have more chronic diseases.[11] Cultural and ethnic changes will continue as the population becomes more diverse. The U.S. physician workforce must be prepared to care for a larger, more diverse and older population with a rising number of chronic medical conditions. [12]

The Association of American Medical Colleges (AAMC) Center for Workforce Studies also projects that the future supply of physicians will not be able to keep up with demand, and concludes that a national shortage is likely. If physician supply and use patterns stay the same,

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[9] Pande A. Effects of Healthcare Reforms on Coverage, Access, and Disparities: Quasi-Experimental Analysis of Evidence from Massachusetts. American Journal of Preventive Medicine, 2011; 41(1): 1-8.
[10] Bureau of Labor Statistics. Physicians and Surgeons. Occupational Outlook Handbook, 2010-11 Edition. Accessed on May 2, 2012 at: http://www.bls.gov/ooh/Healthcare/Physicians-and-surgeons.htm
[11] Graham R, Roberts RG, Ostergaard DJ, Kahn NB, Pugno PA, Green LA. Family Practice in the United States: A status report. *JAMA*. 2002;288:1097-1101.
[12] Rosenblatt RA, Hart LG, Baldwin LM, Chan L, Schneeweiss R. The generalist role of specialty physicians. *JAMA* 1998: 279(17): 1364-70.

the United States will experience a shortage of 124,000 full-time physicians by 2025. As a result, the AAMC has made several important recommendations for its accredited schools. Chiefly, in 2005, the AAMC recommended that medical schools increase enrollment by 30%, or an additional 4,946 medical students by 2015. In order to accommodate the increased size of this incoming class, the AAMC has granted full, provisional, or preliminary accreditation to 12 new medical schools. In total, there are now 137 medical schools in the United States, allowing for a projected 2016-2017 enrollment to reach 26, 709 students.[13]

However, actions beyond increasing the supply of physicians will be needed. Complex changes such as improving efficiency, reconfiguring health care delivery, and making better use of both physicians and other health care professionals will also be necessary.[14] Medical homes and accountable care organizations (ACOs),[15] health provider groups sponsored in the ACA health care reform, may become suitable treatments to these systemic issues.[16] Yet, these solutions cannot function without the utilization of physicians, especially primary care and family medicine practitioners. With data indicating that medical students now prefer specialties other than primary care and family medicine,[17] it appears that such a fix may not be as clear.

National Health Care Reform and Access to Care in Massachusetts

With the implementation of the Affordable Care Act, national health care reform will become a factor in physician access. Already, health care reform in Massachusetts has had consequences indicating that insurance coverage alone may not guarantee care.[18] National health care reform can learn from the Massachusetts overhaul, and gain insight into the importance of having an adequate medical community ready to treat the millions of newly insured patients.

The State of Massachusetts Health Care following 2006 MA Health Care Reform

Since health care reform in Massachusetts was passed in 2006, the state achieved near universal coverage of its adult and child populations. As of May 2012, Massachusetts has the highest rate of insured residents in the nation at 98.1%, with an additional 439,000 residents newly insured since reform passed and 99.8% of Massachusetts children insured [19].Between 2008 and 2010,

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[13] Association of American Medical Colleges "Results of the 2011 Medical School Enrollment Survey" May 2012. Accessed on July 11, 2012. https://www.aamc.org/download/281126/data/enrollment2012.pdf
[14] Association of American Medical Colleges "The Complexities of Physician Supply and Demand: Projections Through 2025" October 2008.
[15] Rittenhouse DR, Shortell SM, Fisher ES. (2009). Primary Care and Accountable Care – Two Essential Elements of Delivery-System Reform. *N Engl J Med* 2009; 361:2301-2303
[16] Rittenhouse DR, Shortel SM. (2009). The Patient-Centered Medical Home: Will It Stand the Test of Health Reform? *JAMA*. 2009; 301(19):2038-2040. doi:10.1001/jama.2009.691
[17] Salsberg E, Rockey PH, Rivers KL, Brotherton SE, Jackson GR. (2008). US Residency Training Before and After the 1997 Balanced Budget Act. *JAMA*. 2008;300(10):1174-1180. doi:10.1001/jama.300.10.1174
[18] McCormick D, Sayah A, Lokko H, Woolhandler S, Nardin R (2012). Access to Care After Massachusetts' Health Care Reform: A Safety Net Hospital Patient Survey. *J. Gen. Internal Medicine* doi: 10.1007/s11606-012-2173-7 Accessed on July 30th, 2012 via http://www.springerlink.com/content/p8433g0640032x53/
[19] Blue Cross Blue Shield of Massachusetts Foundation. May 2012. Health Reform in Massachusetts: Expanding Access to Health Insurance Coverage. Retrieved July 18th, 2012 from http://bluecrossmafoundation.org/Health-Reform/~/media/Files/Publications/Policy%20Publications/Monitoring_MA_Reform_May_2012_v2.pdf

the percentage of uninsured working-age adults decreased from 3.7% to 2.9% statewide.[20] In fact, since reform, insurance coverage has increased most significantly for non-elderly adults, particularly for low-income adults. Conversely, national rates of uninsured persons continued to climb from 13.1% in 2000 to 16.3% in 2010.[20]

Additionally, Blue Cross Blue Shield of Massachusetts Foundation (May 2012) reports a slight increase in the number of Massachusetts adults with a personal health care provider and any visit to the doctor after reform. Between 2006 and 2009, the number of adults with a usual source of care increased from 87 percent to 90 percent. The percentage of adult residents having had any doctor visit increased from 81 percent in 2006 to 86 percent in 2009.[20]

However, despite increases in overall insurance coverage and doctor visits, health care access challenges in Massachusetts remain. Massachusetts continued to have one of the highest rates of residents living in primary care health professional shortage areas in the New England region as of 2009.[19] In fact, many residents in the Boston and Western regions of the state were unable to access care because physician offices were not accepting new patients. Researchers from the Urban Institute found that more adults in the state reported delaying care because they could not get an appointment in the early period under reform. Consequently, these increased barriers to care may reflect the increase in emergency department visits under reform in Massachusetts.[21] In FY2009, it is estimated that over $570 million was spent on potentially preventable ED visits.[20]

Other challenges remain under Massachusetts health care reform. Continued problems with access to care include:

- One in five non-elderly adults report challenges finding a physician who would see them.
- Only slightly more than half of adult diabetics receive recommended preventative care.
- In FY2009, 12 percent of hospitalizations could have been avoided with effective ambulatory care, representing an estimated $719 million.[20]

However, despite these challenges, Massachusetts reform has received favorable reviews from the public, employers and physicians since its implementation. As of 2008, about two thirds of the public supported reform and 88% of Massachusetts physicians believe reform improved, or did not affect, care or quality of care.[18] In a poll published in the *New England Journal of Medicine* in 2009, 75%of physicians believe Massachusetts health reform should continue, and 79% believe reform helped those previously uninsured.[22]

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[20] Division of Health Care Finance and Policy (December 2010). "Health Insurance Coverage in Massachusetts: Results from the 2008-2010 Massachusetts Health Insurance Surveys." Retrieved on July 18, 2012 via http://www.mass.gov/eohhs/docs/dhcfp/r/pubs/10/mhis-report-12-2010.pdf

[21] Long SK & Stockley K. 2010. The impacts of state health reform initiatives on adults in New York and Massachusetts. *Health Services Research,* 46(1p2): 365-387. Retrieved on July 18, 2012. From http://onlinelibrary.wiley.com/doi/10.1111/j.1475-6773.2010.01211.x/pdf

[22] Steel Fisher JK et al. 2009. Physicians' views on the Massachusetts health care reform law – A poll. *NEJM*: e39(1)-e39(6). Retrieved on July 18, 2012 from http://www.nejm.org/doi/pdf/10.1056/NEJMp0909851

Yet, the challenges faced by Massachusetts residents in obtaining medical care are reminders that universal insurance coverage does not always guarantee access to health care. Rather, provider capacity and other barriers to care, such as care discrepancies between accepted insurance providers[19], may be present in Massachusetts. With primary care shortages and a low number of physicians accepting new patients, access to care will persist as a health care issue in Massachusetts and the nation regardless of health care reform. Health care reform needs a strong foundation for positive changes to occur in the United States, and that foundation must include a strong physician workforce.

Physician Workforce Study Methodology

The MMS, with the assistance of prominent labor economists, completed this year's study that builds upon the results of the previous ten years of Physician Workforce Studies. The Society engaged economist James Howell, Ph.D. in the development of the survey tools and in the analysis of the results. The Society also engaged Anderson Robbins Research to conduct the telephone survey of physician offices. Given the wide scope of the project, primary (e.g., surveys and telephone polls) and secondary data (e.g., a review of existing databases and literature) were used to examine issues affecting the Massachusetts physician workforce. Data were collected in the winter and spring of 2012.

MMS conducted the following primary research:

- A survey of a random sample of practicing physicians throughout Massachusetts
- A survey of department chiefs of teaching hospitals in Massachusetts
- A survey of medical staff presidents in Massachusetts
- A telephone survey of physician offices in Massachusetts regarding appointment wait times
- Survey of practicing physicians

A survey was mailed to 8,052 practicing physicians in January 2012. The survey was mailed to those physicians licensed through the Commonwealth of Massachusetts Board of Registration in Medicine who have a full and active license and a primary business address in Massachusetts. The survey mailing included both MMS members and nonmembers who were randomly selected from 18 specialties (anesthesiology, cardiology, dermatology, emergency medicine, gastroenterology, general surgery, internal medicine and family medicine (primary care), neurology, neurosurgery, OB/GYN, oncology, orthopedics, pediatrics, psychiatry, radiology, urology and vascular surgery). Each survey was sent with a cover letter and a postage-paid return envelope. A total of 148 surveys were undeliverable. The surveys were serial numbered for a second follow-up mailing to non-responders that occurred in late January 2012. Returned surveys totaled 1095 for a response rate of 14%.[23]

Results from the surveys were aggregated to maintain the confidentiality of the respondents. The survey asked physician respondents to provide information regarding the availability of physician supply, recruitment efforts, alteration of services, or adjustment of staffing due to

[23] Several of the specialty samples had lower response rates this year than in past years.

physician vacancies, shortages in specific specialties, and retention. In addition, questions were asked to measure physicians' satisfaction regarding the practice of medicine in Massachusetts and the impact of professional liability concerns. By tracking the geographic location of responders, it was possible to aggregate results by metropolitan statistical areas (MSA), allowing for statistical analysis by region. The MSA grouping methodology was based on the Dartmouth Atlas on Health Care methodology. In addition, the data were analyzed by physician age group.

Survey of Medical Staff Presidents at Community Hospitals

A survey was mailed to the medical staff presidents of 46 community hospitals throughout Massachusetts in February 2012. Each survey was sent with a cover letter and a postage-paid return envelope. The surveys were serially numbered for a second follow-up mailing to non-responders that occurred in April 2012. Seventeen surveys were returned for a response rate of 37%. Results from the surveys were aggregated to maintain the confidentiality of the respondents. The survey asked respondents to provide information regarding the availability of physician supply, recruitment efforts, alteration of services, or adjustments to staffing due to physician vacancies, shortages in specific specialties, and retention at their facility. The questions asked were identical to those asked for the 2004 through 2011 MMS Physician Workforce Studies and were written to be comparable to the questions asked in the surveys of practicing physicians and teaching hospital department chiefs.

Survey of Department Chiefs at Teaching Hospitals

The questions for the survey of department chiefs at teaching hospitals were similar to those used for the 2002 through 2011 MMS Physician Workforce Studies. The survey asked department chiefs of anesthesiology, cardiology, dermatology, emergency medicine, general surgery, gastroenterology, internal medicine and family medicine (primary care), neurology, neurosurgery, OB/GYN, oncology, orthopedics, pediatrics, psychiatry, radiology, urology, and vascular surgery at nine teaching hospitals questions regarding physician full-time equivalent (FTE) currently employed physicians, FTE vacancies, new hires, and separations during the previous six months.

It also asked for the department chiefs' experience with the adequacy of the physician applicant pool, recruiting time to fill a physician vacancy, alteration of services and adjustments to staffing due to unfilled vacancies, and retention of existing staff physicians. A total of 151 surveys were sent with cover letters and postage-paid return envelopes. Additional follow-up mailings were also sent to non-responders. Results from the surveys were aggregated to maintain the confidentiality of the respondents. Fifty-five surveys were returned for a response rate of 36%.

Telephone Survey of Physician Offices — Access to Care

The MMS eighth annual health care wait times study was conducted by Anderson Robbins Research. The survey examines availability of and access to non-emergency, new patient appointments in the following seven specialties, cardiology, internal medicine, family medicine, gastroenterology, OB/GYN, orthopedic surgery, and pediatrics. In addition, the survey also examines whether they accept Medicare or Medicaid.

Data collection was conducted between the dates of February 28, 2012 and April 2, 2012. A total of 830 telephone interviews were conducted for this study. Physicians' offices were called for the purpose of scheduling an appointment for a new patient. Non-emergency reasons were given for the appointments in order to measure wait times for routine care. The specific, non-emergency reasons given were unique for each specialty.

- Cardiology: heart check-up
- Gastroenterology: chronic heartburn
- Internal medicine: new primary care physician
- Orthopedic surgery: knee pain
- OB/GYN: routine exam
- Family medicine: new primary care physician
- Pediatrics: new pediatrician for 1-year-old child

The medical offices selected for inclusion in the study were randomly selected from a database of all Massachusetts physicians, compiled by the American Medical Association.

Every effort was made to complete a minimum of seven interviews for each specialty, within each county, in order to enable a geographic analysis of results across the state. This is of course not possible in counties where there are fewer than seven specialists. Weights were applied to the overall results to insure that specialists in each county are represented in their proper proportion relative to the state as a whole.[24]

Data Entry and Analysis

All returned surveys were logged, and responses were entered into a database for editing and categorization. The databases were imported into SPSS, a statistical software package, for analysis.

Sample Characteristics

Please see Appendix A for of the sample characteristics, including the number of physician responses by specialty, gender and region.

[24] Weights were necessary because of the oversampling in some of the smaller counties that was done to increase the reliability of the data within individual counties.

Section 1: Defining Labor Marked Conditions for the 18 Specialties

In order to categorize whether labor market shortages are critical or severe, the following criteria was established. First, six questions were identified in the survey of practicing physicians to serve as a proxy for physician shortages. These six key questions included:

- Is the current pool of physician applicants adequate to fill your vacant positions or expand your practice?
- Are you currently experiencing difficulty filling physician vacancies?
- Have physician supply problems made it necessary for you to alter the services you provide (e.g., volume or mix of services)?
- Have physician supply problems made it necessary to adjust your professional staffing patterns?
- Based on your current experience, on average, how long does it take to recruit a physician for your practice?
- Over the past three years, has the amount of time needed to recruit physicians changed?

For a physician specialty to be considered "critical" in terms of its labor market tightness, responses to the aforementioned key questions must meet the following criteria:

- Responses to at least two out of six questions must equal or exceed 50 percent.
- Responses to the remaining questions must equal or exceed 20 percent.
- Responses to all six questions must be greater than the mean for each of the respective six questions for all physician specialties combined.

For a physician specialty to be considered "severe" in terms of its labor market tightness, responses to the aforementioned key questions must meet the following criteria:

- Responses to one out of six questions must equal or exceed 50 percent.
- Response to at least five out of any six questions must equal or exceed 20 percent.
- Responses to any three out of six questions must be greater than the mean for each of the respective six questions for all physician specialties combined.

Therefore, those specialties categorized as "critical" specialties are experiencing the highest possible degree of shortage as established by our criteria, while those specialties identified as "severe" are experiencing a **high** degree of shortage.[25]

For all remaining specialties that do not satisfy these criteria we have categorized them as operating in either relatively tight labor markets or soft labor markets.

[25] Throughout this report we use the terms "stress," "tightness," and "shortage" interchangeably in describing labor market conditions.

Throughout much of the subsequent analysis we will use the resulting labor market classifications as an organizing theme, especially, the six specialties that are classed in Group 1, the tight/tightening labor market.

1.1 Summary of the Results of the 2012 Workforce Study in the Context of the Earlier Studies, 2002-2010

Physician labor markets continued to be tight in 2012. In the 2012 MMS Workforce Study, seven physician specialties satisfied the statistical criteria of operating in either critical or severe labor markets – see Table 1.1 below.

Table 1.1
Physician Specialties Categorized as Critical and Severe in 2012

Specialty	2012
Internal Medicine	Critical
Psychiatry	Critical
Urology	Critical
Neurosurgery	Critical
Dermatology	Severe
Family Medicine	Severe
General Surgery	Severe

Table 1.2 below lists the number of specialists that were classified as operating in either severe or critical labor markets in the over the past 10 years.

Table 1.2
Number of Physician Specialties Classified as Critical or Severe

Years	Number of Specialties
2002	5
2003	7
2004	6
2005	6
2006	11
2007	9
2008	12
2009	7
2010	10
2011	8
2012	7

The longest period in which any specialty was categorized in the tight/tightening labor market group was for seven years, which was for the two specialties of internal medicine and family

medicine. Alternatively, the labor market for pediatrics has never been classified in the tight/tightening labor market group.

As is readily apparent from reviewing the classifications shown in Table 1.3, labor market conditions change over time. Note specifically, that in the earlier years of the preceding decade many of the specialties that are not categorized as operating in soft labor markets were considered as being either in tight or tightening markets.

It is important to note that the seventh specialty, neurosurgery, is not found in the detailed analysis in this report as neurosurgery met the criteria for Group 2, Relatively Tight Labor Markets in Table 1.3, as opposed to Group 1, Tight/Tightening Labor Markets.

Table 1.3: Physician Specialties Classified as Facing Critical or Severe Shortages 2002 to 2012 Survey Years

Physician Specialties Classified as Facing Critical or Severe Shortages 2002 to 2012 Survey Years											
Specialty	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**	**2004**	**2003**	**2002**
Group 1 - Tight/Tightening Labor Markets											
Internal Medicine	Critical	Critical	Critical	Severe	Critical	Critical	Critical	----	----	----	----
Urology **	Critical	Critical	Severe	Severe	Severe	Severe	**	**	**	**	**
Psychiatry	Critical	Critical	Severe	----	Severe	Severe	Severe	----	----	----	----
Family Medicine	Severe	Severe	Critical	Critical	Critical	Severe	Severe	----	----	----	----
Dermatology *	Severe	Severe	Severe	Severe	Severe	*	*	*	*	*	*
General Surgery	Severe	Severe	Severe	----	Severe	----	Severe	Severe	Severe	Severe	----
Group 2 - Relatively Tight Labor Markets											
Orthopedics	----	Severe	Severe	----	Severe	----	Severe	Severe	Severe	Severe	----
Neurology *	----	----	Severe	Severe	Severe	*	*	*	*	*	*
Vascular Surgery	----	----	Severe	Severe	Severe	Critical	Severe	----	----	----	----
Neurosurgery	Critical	Severe	----	----	Severe	Critical	Severe	Severe	Critical	Critical	Severe
Emergency Medicine	----	----	Severe	----	Severe	----	Severe	----	----	----	----
Group 3- Soft Labor Markets											
OB/GYN	----	----	----	Severe	----	----	----	----	----	----	----
Oncology *	----	----	----	----	Severe	*	*	*	*	*	*
Cardiology	----	----	----	----	----	Critical	----	Severe	Severe	Critical	Severe
Anesthesiology	----	----	----	----	----	Severe	Severe	Critical	Severe	Critical	Critical
Gastroenterology	----	----	----	----	----	Severe	Severe	Severe	----	Critical	Severe
Radiology	----	----	----	----	----	----	Critical	----	Severe	Critical	Critical
Pediatrics	----	----	----	----	----	----	----	----	----	----	----
* 2008-2010 data only											
** 2007-2010 data only											

Table 1.4: Specialties Facing Critical or Severe Occupational Shortages in Last Eleven Years

2012 Survey Data and 2002-2011 Averages												
	2012 Inadequate Pool Physicians	**2002-2011 Avg.**	**2012 Change Recruit Time**	**2002-2011 Avg.**	**2012 Difficulty to Retain**	**2002-2011 Avg.**	**2012 Significant Difficulty Fill Vac.**	**2002-2011 Avg.**	**2012 Alter Services**	**2002-2011 Avg.**	**2012 Adjust Staffing**	**2002-2011 Avg.**
Group 1 - Tight/Tightening Labor Markets												
Internal Medicine	**69.6%**	*61.0%*	**51.6%**	*50.5%*	**33.7%**	*34.0%*	**29.6%**	*31.5%*	**39.2%**	*33.4%*	**47.9%**	*34.0%*
** Urology	**60.9%**	*76.8%*	**56.5%**	*71.3%*	**37.5%**	*44.0%*	**34.8%**	*38.3%*	**37.5%**	*32.1%*	**45.8%**	*42.1%*
Psychiatry	**77.8%**	*48.2%*	**57.4%**	*45.8%*	**42.6%**	*35.0%*	**36.8%**	*26.2%*	**33.9%**	*34.3%*	**43.1%**	*32.3%*
Family Medicine	**73.7%**	*56.7%*	**48.7%**	*45.7%*	**40.9%**	*34.5%*	**30.1%**	*29.4%*	**45.0%**	*31.5%*	**47.0%**	*29.7%*
* Dermatology	**74.1%**	*84.4%*	**46.2%**	*51.2%*	**25.9%**	*25.9%*	**32.3%**	*46.7%*	**45.7%**	*39.8%*	**45.7%**	*39.0%*
General Surgery	**53.8%**	*51.6%*	**32.0%**	*45.5%*	**25.9%**	*38.6%*	**24.1%**	*30.5%*	**32.3%**	*29.2%*	**41.9%**	*29.8%*
Group 1 – Total	**68.3%**	63.1%	**48.7%**	51.6%	**34.4%**	35.3%	**31.3 %**	33.8%	**38.9%**	33.4%	**45.2%**	34.5%
Group 2 - Relatively Tight Labor Markets												
Orthopedics	**56.3%**	*41.3%*	**31.3%**	*52.2%*	**11.1%**	*24.4%*	**20.0%**	*36.7%*	**28.0%**	*35.8%*	**36.0%**	*35.6%*
* Neurology	**25.0%**	*74.1%*	**18.2%**	*41.5%*	**22.7%**	*34.5%*	**15.4%**	*34.9%*	**28.0%**	*34.1%*	**30.8%**	*33.4%*
Vascular Surgery	**54.5%**	*61.0%*	**45.5%**	*51.2%*	**25.0%**	*36.8%*	**27.3%**	*33.8%*	**30.8%**	*24.7%*	**46.2%**	*34.7%*
Neurosurgery	**57.1%**	*63.3%*	**71.4%**	*45.8%*	**71.4%**	*37.1%*	**37.5%**	*43.7%*	**62.5%**	*41.6%*	**57.1%**	*38.3%*
Emergency Med	**38.5%**	*42.4%*	**38.5%**	*37.7%*	**35.0%**	*31.8%*	**14.0%**	*17.4%*	**23.8%**	*19.4%*	**39.5%**	*35.7%*
Group 2 - Total	**46.3%**	56.4%	**41.0%**	45.7%	**33.0%**	32.9%	**22.8%**	33.3%	**34.6%**	31.1%	**41.9%**	35.5%
Group 3- Soft Labor Markets												
OB/GYN	**47.9%**	*45.0%*	**44.0%**	*39.0%*	**34.5%**	*27.9%*	**24.1%**	*22.8%*	**24.2%**	*22.8%*	**33.9%**	*27.6%*
* Oncology	**16.7%**	*59.5%*	**20.0%**	*52.4%*	**10.0%**	*50.8%*	**5.0%**	*21.3%*	**5.0%**	*12.9%*	**15.0%**	*19.5%*
Cardiology	**35.3%**	*55.1%*	**33.3%**	*50.6%*	**25.0%**	*29.8%*	**6.7%**	*31.2%*	**22.2%**	*25.9%*	**21.7%**	*35.6%*
Anesthesiology	**28.2%**	*63.1%*	**28.6%**	*44.2%*	**35.0%**	*40.9%*	**7.7%**	*28.2%*	**17.1%**	*32.8%*	**45.0%**	*52.6%*
Gastroenterology	**36.8%**	*59.1%*	**25.0%**	*50.0%*	**37.5%**	*23.4%*	**17.4%**	*40.8%*	**20.8%**	*34.9%*	**29.2%**	*27.9%*
Radiology	**9.7%**	*63.4%*	**15.2%**	*42.6%*	**19.1%**	*29.4%*	**4.4%**	*29.1%*	**12.9%**	*22.0%*	**20.3%**	*48.8%*
Pediatrics	**31.9%**	*28.5%*	**25.5%**	*25.9%*	**19.0%**	*18.3%*	**12.9%**	*10.7%*	**13.0%**	*26.1%*	**20.8%**	*16.1%*
Group 3 – Total	**29.5%**	53.4%	**27.4%**	43.5%	**25.7%**	31.5%	**11.2%**	26.3%	**16.5%**	25.3%	**26.6%**	32.6%
Sample Mean	**50.1%**	*53.3%*	**39.2%**	*45.1%*	**30.3%**	*31.5%*	**21.7%**	*28.2%*	**29.2%**	*29.3%*	**37.3%**	*32.5%*

** 2008-2012 data only*

*** 2007-2012 data only*

The following analysis comments specifically on the physician response for the sample as a whole, as well as for the six physician specialties listed in the tight/tightening labor market group, also known as Group 1. In Table 1.4, the 2012 survey data is compared to the average physician responses from 2002-2011.

Examining the survey responses to the six questions inquiring whether a specialty is in a shortage, the following three charts, namely Chart 1.1, Chart 1.2, Chart 1.3, look at aggregate physician responses from 2003 through 2012.

Chart 1.1 highlights the percent of physicians, overall, that felt that the physician labor markets were inadequate for physician recruitment from 2003 through 2012, as well as the percentage of physicians, overall, that felt that the amount of time it takes to recruit physicians increased in any given year, from 2003 through 2012.

Chart 1.2 highlights the percentage of physicians, overall, that felt that it was increasingly difficult to retain physicians, as well as the percentage of physicians, overall, that felt it was increasingly difficult to recruit physicians each year from 2003 through 2012.

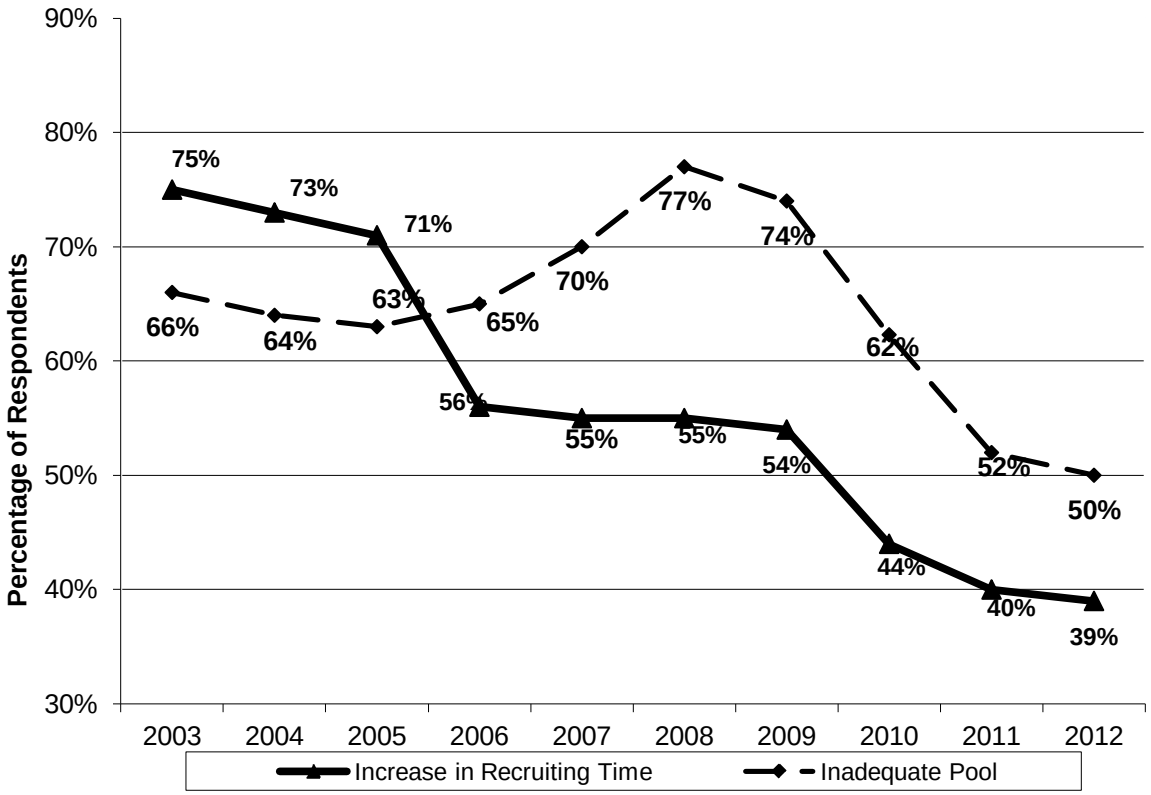
Chart 1.3 illustrates the percentage of physicians, overall, that felt physician supply problems necessitated adjustments in staff each year from 2003 through 2012, as well as the percentage of physicians overall, that felt physician supply problems necessitated the alteration of services each year, from 2003 through 2012.

1.2 The Impact of Physician Shortages on Physician Labor Market Conditions

Chart 1.1 illustrates that in 2012, fewer physicians, overall, report seeing an increase in recruiting time for physicians in their practice specialty.

This is the fifth year in a row marked by a decrease in recruiting time for hiring physicians in their practice specialty (55% in 2008 to 38% in 2012). Chart 1.1 also illustrates that in 2012, fewer physicians, overall, report seeing an inadequate pool of applicants for physician positions in their specialty. Similarly, this is the fifth year in a row that there has been a decrease in physicians reporting an inadequate applicant pool for open physician positions in their specialty, from 77% in 2008 to 50% in 2012.

Chart 1.1:
Percent Reporting That Current Pool of Applicants
Is Inadequate and Percent with Increase in Recruiting Time



Overall, Chart 1.1 signifies that physician labor markets, at least in the aggregate, have shown some improvement. A closer view at the disaggregated data by specialty, however, indicates that this softening has not been uniform. The data in Table 1.3 continue to show that Group 1 specialties face an entirely different situation (Group 1 is defined in Table 1.4 on page 13).

A similar pattern shows through in the physician data shown in Chart 1.2. Chart 1.2 illustrates that the percentage of physicians having difficulty filling vacant positions in their specialty has declined from 2011 (55%) to 2012 (54%). Similarly to the trend found in Chart 1.1, Chart 1.2 indicates that the percentage of physicians having difficulty filling vacant positions in their specialty has been steadily declining since 2007 (from 70% in 2007 to 54% in 2012). Chart 1.2 also illustrates the percentage of physicians that report difficulty retaining staff has declined in 2012 to 30%. The percentage of physicians that reported having difficulty retaining staff has steadily declined since 2003 from 57% to 30% in 2012.

Chart 1.2:
Percent Having Difficulty in Filling Vacant Positions and Having Difficulty in Retaining Physician Staff

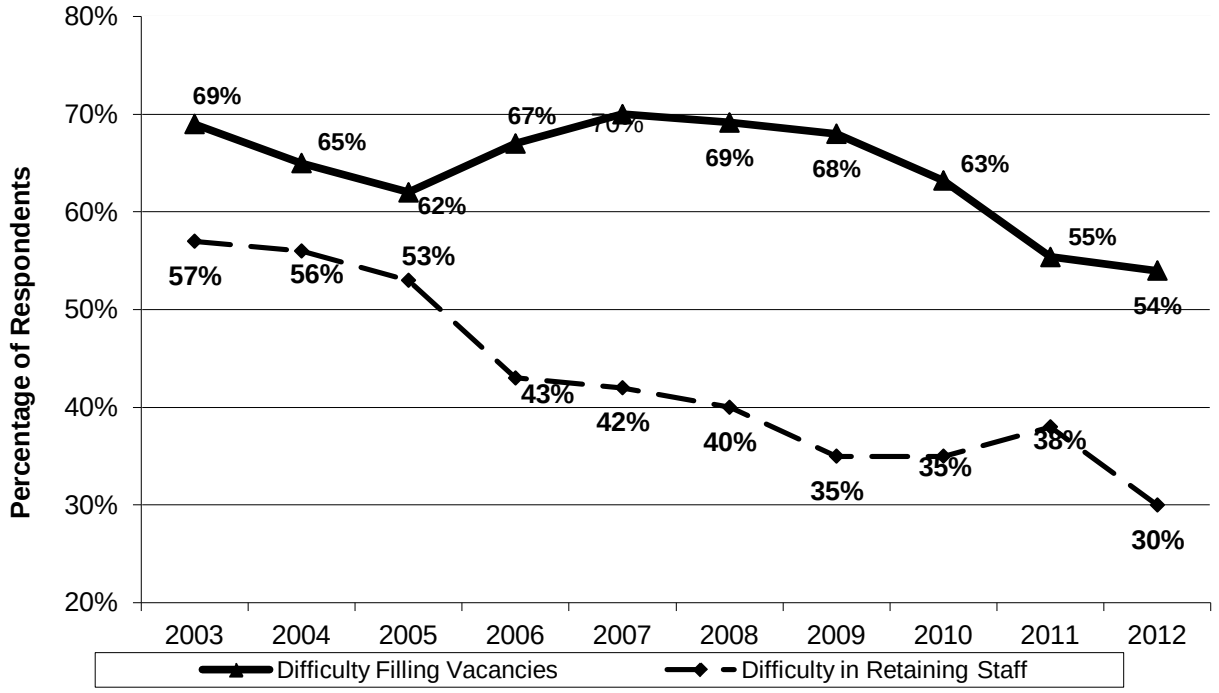
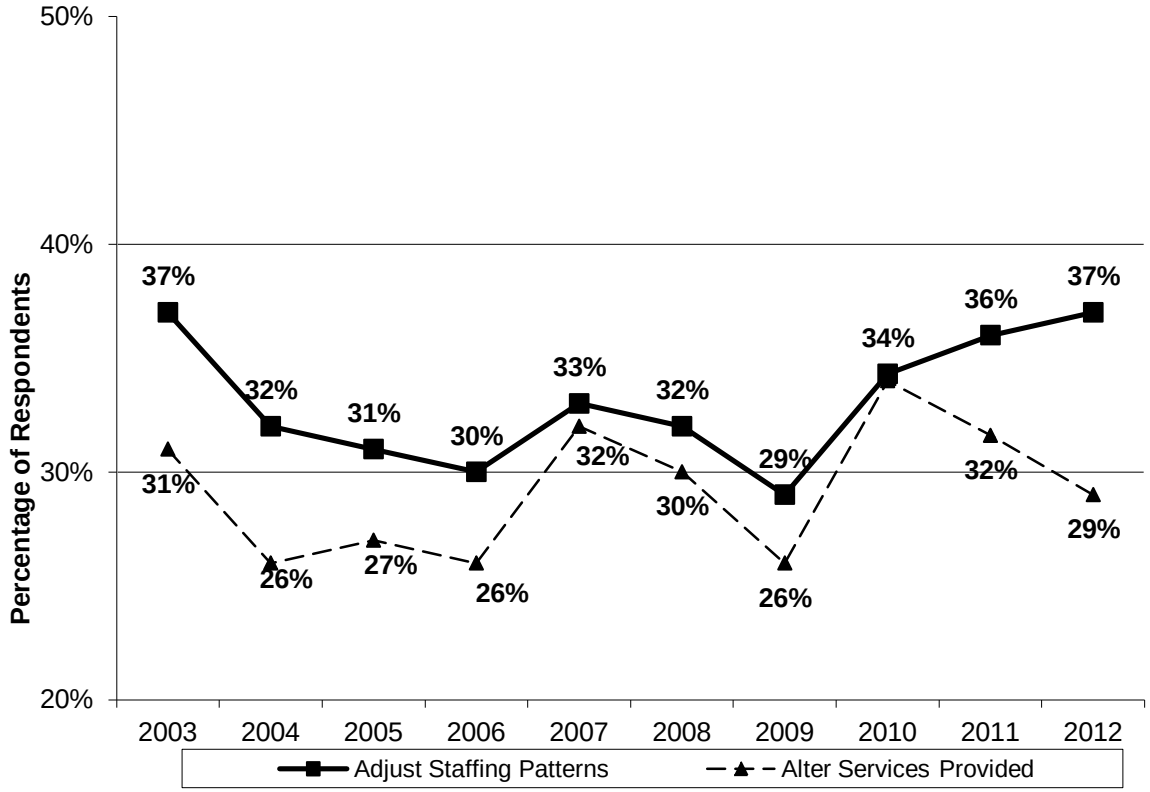


Chart 1.3 illustrates the percentage of physicians that reported the need to adjust staffing problems as a result of the current physician labor market, as well as the percentage of physicians that reported the need to alter services given the current physician labor market. When one takes into account the year-to-year variances in the data, it is clear that about one-third of the respondents indicated that physician supply problems affect both their delivery of services and/or the need to adjust staffing patterns. These aggregate means, however, mask some of the disparities across the three groups (Group 1, Group 2, Group 3 from Table 1.4 on page 13). These disparities between groups are especially apparent with regards to physicians' need to adjust staffing. Table 1.4 illustrates that approximately 45.2% of physicians in Group 1 reported the need to adjust staffing, whereas only 41.9% of physicians in Group 2 and 37.3% of physicians in Group 3 reported the need to adjust staffing in response to the current labor market.

Chart 1.3
Percent Responding Supply Problems Have
Necessitated Adjusting Staffing Patterns and Altering Services



1.3 The Regional Dynamics in Massachusetts Physician Labor Markets

The discussion in the previous section (section 1.2) covered the behavior for labor market specialties for the entire state. While the statewide data are important indicators of the dynamics of the physician labor markets across Massachusetts, these labor markets also have strong regional and urban dimensions.

First, it is important to consider the regional responses for the six key questions (listed on page 10 for reference) for all 18 specialties across the primary regional labor markets. The results of the six key questions are shown below in Table 1.5 by region for the five Metropolitan Statistical Areas (MSA) in Massachusetts (Boston, Worcester, Springfield, New Bedford/Barnstable, and Pittsfield/Western Massachusetts.

Table 1.5
Analysis of the Regional LaborMarkets for all Eighteen Specialties Surveyed
(Percentages indicate the percent of physicians that answered affirmatively to each question.)

	Inadequate Pool of Physicians	Increased Time to Recruit	More Difficult to Retain Staff	Significant Difficulty to Fill Vacancies	Need to Alter Services	Need to Adjust Staffing
Boston	43.8%	36.5%	29.3%	17.4%	25.2%	34.8%
New Bedford/ Barnstable	62.2%	35.3%	31.6%	25.9%	33.8%	32.3%
Pittsfield/ West MA	85.0%	41.2%	40.0%	47.8%	58.3%	64.0%
Springfield	68.2%	47.9%	26.0%	33.7%	39.1%	46.3%
Worcester	57.9%	47.0%	38.5%	29.3%	35.0%	35.4%
All Specialties	**50.1%**	**39.2%**	**30.3%**	**21.7%**	**29.2%**	**37.3%**

Table 1.5 illustrates that the Boston MSA has the most competitive physician labor market, as the responses for the Boston MSA are below the aggregate survey means. A positive benefit of this effect (what economists would call "urban medical agglomeration") is that the physician labor market often functions more competitively as a result of the large number of highly similar and complementary physician specialists.

Table 1.5 also illustrates that the Pittsfield MSA represents the tightest labor market supply within the five regional labor markets. In the Pittsfield MSA, the average survey results are above the regional survey means for all six questions. In the Springfield MSA (47.9%) and the Worcester MSA (47.0%), there was a considerably higher percentage of physicians reporting increased time to recruit physicians than there was in the other three regions. Interestingly enough, the New Bedford/Barnstable region (32.3%) reports a lower percentage of physicians that need to adjust staffing than the Boston region (34.8%).

Next the responses for the key questions for the six specialties experiencing tight and tightening labor markets are expressed as a percentage of the Boston regional labor market. The survey results for the Boston market are considered as the benchmark against which response rates for the remaining four regional labor markets can be compared.

Table 1.6
Summary of Composite Result of the Five Massachusetts Regional Labor Markets Indexed to the Boston Regional Market for the Six Tight/Tightening Labor Markets Physician Specialties (Group 1)

	Inadequate Pool of Physicians	Increased Time to Recruit	Difficult to Retain Staff	Difficult to Fill Vacancies	Need to Alter Services	Need to Adjust Staffing
Boston	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Worcester	132.0%	125.7%	131.5%	171.2%	148.4%	97.2%
Springfield	128.0%	106.6%	93.4%	130.4%	131.5%	119.1%
New Bedford/ Barnstable	109.8%	78.6%	98.4%	111.5%	116.9%	80.0%
Pittsfield/ Western Mass.	156.0%	110.7%	88.3%	214.3%	204.2%	172.7%

The ratios shown in Table 1.6 dramatically highlight the variances across the response rates shown in Table 1.5. The above ratios show the dominance of the Boston urban area labor market in Massachusetts. Physician labor markets in Boston function more effectively to the urban demands.

1.4 Analysis of the Urban Labor Markets for the Six Specialties Currently Experiencing Tight/Tightening Labor Markets

The final dimension of this disaggregated analysis focuses on the physician responses to these six questions for the specialties that are currently experiencing tight/tightening labor markets across five suburban medical markets within the Boston MSA. The selection of these disaggregated medical markets was on the basis of two criteria. First, each suburban market contained a significant medical agglomeration around which physicians practice. Second, each of the areas contained adequate survey responses to permit disaggregation analysis with a degree of statistical reliability. Survey data limitations meant that all suburban labor markets could not be included in the analysis. The results are shown in Table 1.7.

Table 1.7 has 30 cells which contain specific responses for each of the suburban physician markets for each of the six questions, using Boston as the benchmark comparison market. As Table 1.7 demonstrates, the response rates in 13 of the suburban cells are lower than Boston. More specifically, these suburban areas of Cambridge, the North Shore, and Newton/Wellesley responded that the increase in recruitment time was far less than the increase in recruitment time in Boston.

Table 1.7
Analysis of Group 1 Specialties* Designated as
Having Tight Labor Markets By Urban Market Regions

	To Expand Practice Inadequate Pool Physicians	Past 3 Years Increase in Recruit time	Past 3 Years More Difficult to Retain Staff	Significant Difficulty in Filling Vacancies	Necessary to Alter Services	Necessary to Adjust Staffing
City of Boston/Suffolk County	50.60%	53.50%	31.90%	22.00%	34.30%	47.50%
Cambridge/Somerville /Arlington/Medford	65.20%	44.80%	29.00%	20.00%	23.50%	38.20%
North Shore: Salem /Beverly/Lynn /Saugus	87.50%	37.50%	12.50%	45.50%	27.30%	36.40%
Newton/Wellesley /Needham	52.90%	42.90%	40.90%	10.00%	20.80%	31.80%
South Shore: Quincy/Braintree /Plymouth	57.10%	62.50%	50.00%	25.00%	37.50%	50.00%
State Mean: Six Specialties*	**69.90%**	**50.50%**	**35.50%**	**30.70%**	**39.70%**	**46.50%**
All Respondent Mean: All Specialties	**50.10%**	**39.20%**	**30.30%**	**21.70%**	**29.20%**	**37.30%**

* Dermatology, Family Medicine, General Surgery, Internal Medicine, Psychiatry, Urology Aggregated

While Boston will likely remain the center of advanced medical research, there is an increasing number of sophisticated medical complexes now fully established in the suburbs of Boston and beyond. This has led to a much stronger overall medical services complex throughout urban and suburban areas in Massachusetts.

Section 2. A Brief Comparative Analysis between Departments Chiefs at Teaching Hospitals and Medical Staff Presidents at Community Hospitals and the Practicing Physician Survey

Section 2 examines the survey responses from department chiefs at teaching hospitals and medical staff presidents at community hospitals. While the survey responses are somewhat limited, the responses provide valuable insights into the physician labor market issues with which these entities are confronted. In order to place these responses into the much broader perspective, Table 2.1 includes physician survey responses from the Practicing Physician Survey. As was the case with the practicing physicians, the department chiefs and medical staff presidents were asked to respond to the six key labor market questions that constituted the core of the Practicing Physician Survey (these six questions are listed on page 10). The results from these three surveys are shown in Table 2.1.

Table 2.1
Physician Labor Market Conditions Reported By Department Chiefs at Teaching Hospitals and Medical Staff Presidents at Community Hospitals Compared with Practicing Physicians Survey

	Inadequate Pool of Physicians	Increased Recruiting Time	Increased Difficulty to Retain	Significant Difficulty in Filling Vacancies	Necessary to Alter Services	Necessary to Adjust Staffing
Teaching Hospitals	36.4%	29.6%	34.5%	7.3%	14.5%	33.9%
Community Hospitals	94.1%	86.7%	58.8%	94.1%	50.0%	86.7%
Physician Survey	**50.1%**	**39.2%**	**30.3%**	**21.7%**	**29.2%**	**37.3%**

As Table 2.1 illustrates, community hospitals find themselves operating in physician labor markets that may be at competitive disadvantages. These results are consistent with earlier MMS survey results on labor market issues with which community hospitals are confronted.

The discussion in the remainder of Section 2 reviews the written comments found in response to the six key questions with regard to the Community Hospital Survey. Taken together, the responses to these questions provide a narrative of the scope and nature of the limited physician labor markets in which community hospitals often find themselves. In the discussion that follows, several of the most representative comments are summarized.

Community Hospital Survey Responses Concerning the Difficulty to Recruit and Retain Community Physicians

- A limited number of physicians applying for a position are interested in working for a small community hospital.
- Small community hospitals are often unable to offer competitive salaries.

Community Hospital Survey Responses Concerning the Difficulty to Retain Physicians

- High cost of living (in Massachusetts) and lower compensation than other regions.
- Early retirement and superior opportunities in other states.

Community Hospital Survey Responses Concerning the Specific Ways to Manage Medical Services in Face of Physician Shortages

- Hire more mid-level providers and contract with external services.
- Staying late or getting other hospital specialists to cover patients.
- Changing staff patterns, staff typically work additional shifts, staff volunteers for more hours of on-call duty

The aforementioned responses underscore management problems inherent in providing services to effectively meet patient demands in community hospitals' market areas.

In a final question, the medical staff presidents were asked to list the specialties that are most difficult to fill.

Community Hospital Survey Responses Indicating the Specialists Most Difficult to Fill

- Family Practice
- Neurosurgery
- Internal Medicine
- Dermatology
- Cardiology
- Vascular Surgery
- Orthopedic surgery
- OB/GYN

Three of these specialists cited by community hospital chiefs – internal medicine, family practice, and dermatology – are three of the six specialties cited above (in Table 1.4 on page 13) as currently operating in the either critical and/or severe labor markets.

Section 3: The Impact of Professional Liability Fees on the Physician Practice Environment

Many Massachusetts physicians are concerned about rising liability costs, as these costs are one of the dominant and unavoidable factors in a physician's practice. In 2011, both the United States and the state of Massachusetts had no change to their professional liability rates. While these comparisons are valid, it should be recognized that there is no national professional liability insurance premium rate because rates are set by state rating agencies. The annual national estimates used in the Physician Workforce Study represent the median values reported for the various states. Over the years it has been shown repeatedly that there are only relatively small amounts of dispersion around the median; hence the median is a good proxy for the national rate.[26]

Historically, the average annual rates of increase in professional liability insurance premium rates in Massachusetts in the period 2005-2011 remained well above those of the United States. During this period the national rates increased only 0.9%, whereas in Massachusetts the professional liability insurance premium rates increased 2.2%.[27]

3.1 Liability Costs Impact on Scope of Practice

An integral component of the MMS Physician Workforce Study has been to include at least two questions on the issue of professional liability costs to determine whether liability costs caused physicians to limit the scope of their practice and whether the threat of a lawsuit led physicians to alter the scope of their practice. Physicians' responses to these questions are illustrated in Table 3.1 and Table 3.2.

[26] Massachusetts Medical Society, 2011, Physician Practice Environment Index.
[27] Massachusetts Medical Society, 2011, Physician Practice Environment Index.

Table 3.1 Percent of Respondents Indicating that Liability Costs have Forced Physicians to Limit the Scope of One's Practice

Specialty Groups	
Specialists	13.00%
Family medicine/Internal Medicine	9.90%
Pediatrics	6.90%
Group 1 - Tight/Tightening Labor Markets	
General Surgery	20.00%
Family Medicine	15.50%
Urology	13.00%
Internal Medicine	7.60%
Psychiatry	4.30%
Dermatology	2.60%
Group 1 - Tight/Tightening Labor Markets Mean	9.30%
Group 2 - Relatively Tight Labor Markets Mean	16.50%
Group 3 - Soft Labor Markets Mean	11.80%
Survey Mean	11.10%

Table 3.1 illustrates that specialists are more likely to have responded that higher liability costs have caused them to limit their practices than primary care physicians, such as family practice physicians and internal medicine physicians.

Table 3.1 also illustrates that the disparity between the average physician response, when examined by labor market groups (Group 1, Group 2, and Group 3). On the surface, these rates suggest that the lowest percent of physicians who reported the need to limit the scope of their practice because of liability costs is in Group 1, those specialties operating in tight/tightening labor markets. However, given the sharp disparity of the individual responses for the six specialties included in Group 1, the average physician response is not the best representative measure for their group. Moreover, the disparity of the three means indicates that the impact of relatively high liability costs is independent of labor market conditions.

Table 3.2 illustrates average physician responses regarding whether they must alter the scope of their practice for fear of being sued. Table 3.2 demonstrates that physicians' responses for specialists and primary care physicians were not significantly different. In fact, family medicine and internal medicine physicians (44.1%) were more likely to report altering the scope of their practice for fear of being sued than specialists (42.0%). As can be seen in Table 3.2, the average physician responses varied within the three labor market groups, which confirm the suspicion that professional liability costs are not influenced by labor market conditions.

Table 3.2 Percent of Respondents Indicating that Physicians Have Altered their Scope of Practice for Fear of Being Sued

Specialty Groups	
Specialists	42.0%
Family medicine/Internal Medicine	44.1%
Pediatrics	30.3%
Group 1 - Tight/Tightening Labor Markets	
Urology	62.5%
Family Medicine	49.5%
General Surgery	43.3%
Internal Medicine	41.9%
Dermatology	39.5%
Psychiatry	24.6%
Group 1 - Tight/Tightening Labor Markets Mean	**42.0%**
Group 2 - Relatively Tight Labor Markets Mean	**52.5%**
Group 3 - Soft Labor Markets Mean	**36.7%**
Survey Mean	**41.1%**

Table 3.3 illustrates entire range of physician responses on the issue of the need to alter services for fear of being sued, from 2009 through 2012. Eleven of the eighteen specialties featured in Table 3.3 had the percent of respondents expressing fear of a suit decrease between 2011 and 2012.

Table 3.3 Percent of Respondents Indicating that Physicians Have Altered or Limited Their Scope of Practice for Fear of Being Sued

Specialties	2012	2011	2010	2009
Orthopedics	63%	75%	70%	71%
Urology	63%	50%	74%	64%
Neurosurgery	60%	58%	82%	62%
Emergency Medicine	57%	56%	70%	59%
Obstetrics and Gynecology	48%	56%	60%	60%
Neurology	44%	41%	47%	32%
General Surgery	43%	52%	44%	47%
Cardiology	41%	46%	49%	53%
Gastroenterology	40%	71%	44%	62%
Radiology	40%	50%	40%	45%
Dermatology	39%	66%	42%	47%
Oncology	33%	25%	33%	27%
Anesthesiology	30%	45%	38%	41%
Vascular Surgery	29%	40%	31%	14%
Psychiatry	25%	31%	40%	30%
Family Practice/Internal Medicine				
Family Medicine	50%	44%	54%	52%
Internal Medicine	42%	46%	53%	53%
Pediatrics				
Pediatrics	30%	34%	39%	41%
Total	**41%**	**46%**	**46%**	**46%**

Section 4: Physician Satisfaction, Attitudes Toward the Profession, and Future Career Plans

Massachusetts physicians' attitudes regarding their professional careers and opinions about the professional nature of their respective work situations are important factors that affect the current and future workforce and the provision of quality patient care. Physicians' opinions and attitudes toward their work situation are multi-faceted.

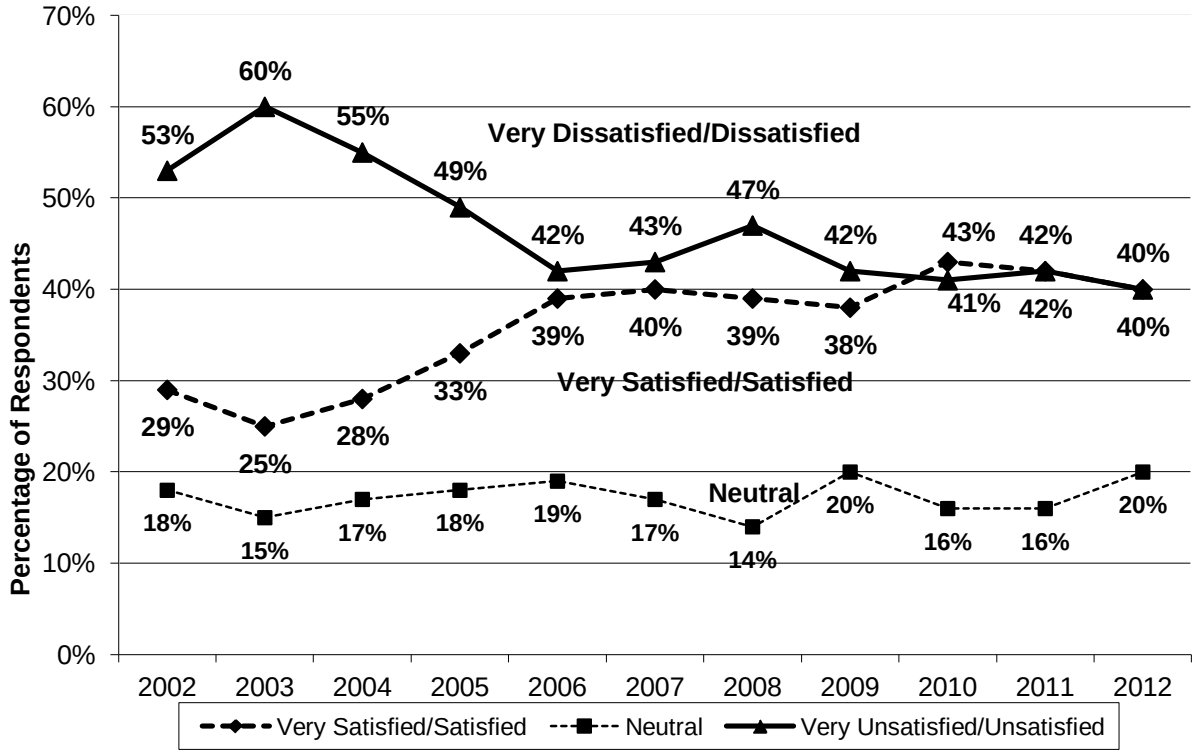
In one sense, the work environment for physicians is not that different from that of any other highly-trained professional. The strains of the work environment will always exist, as they are the integral element in any highly-demanding work situation. In another sense, the work environment for the physician is quite different, as physicians are the front line providers for the population's health and wellness and are expected to work at the highest level of professionalism regardless of occupational adversities that may be present. Finally, job satisfaction in the health profession is often categorized as among the lowest of many industries with growing levels of job-related stress and dissatisfaction. It is in this context that the Physician Workforce Study has always included in its survey a series of questions about what may be considered "physician satisfaction." These questions have long been accepted as an important component of the Physician Workforce Study, largely because they reflect the physicians' opinions on a wide range of issues affecting their work situations. These attitudinal responses are analyzed and discussed in the four sections that follow, namely:

4.1: Physician Attitudes toward the Practice Environment
4.2: Physician Attitudes toward their Professional Work Situation
4.3 Physician Satisfaction with their Work Environment and Plans to Change Careers or Move Out of State
4.4 Physician Attitudes Concerning the Competitiveness of their Income Level and Future Salary Expectations

4.1 Physician Attitudes toward the Practice Environment

The Physician Workforce Study data concerning physicians' satisfaction with the current practice environment is displayed in Chart 4.1 from 2002 through 2012. Chart 4.1 illustrates that beginning in 2006 there has been a significant convergence between those physicians who are very satisfied or satisfied with the current practice environment with those who are very dissatisfied or dissatisfied with the current practice environment. Over the past two years this convergence has become even tighter. In both 2011 (42%) and 2012 (40%), the percentage of physicians that were very satisfied or satisfied with the current practice environment was the same as the percentage of physicians that were either dissatisfied or very dissatisfied with the current practice environment. The percentage of physicians that feel neutral about the current practice environment has fluctuated within a very narrow band between a low of 14% to a high of 20% over the past 10 years.

Chart 4.1
Degree of Satisfaction with the Current Practice Environment



The underlying data that support the aggregate changes shown in Chart 4.1 are shown in Table 4.1. It should be noted that these ratios are derived from the 2012 Practicing Physician Survey. In addition to the three broad practicing categories, we have included specific details for the six specialties that were identified as experiencing severe or critical labor market conditions as shown on page 13 in Table 1.4, along with the aggregate means for the remaining two groups. These results are an important part of this analysis, as the disaggregated survey results demonstrate that the highest satisfaction levels are among pediatricians, where the lowest are among the specialists. Moreover, it is interesting to note the very small variances that exist between specialists and family medicine and internal medicine physicians.

Slight variations may also be noted across the three labor market groups; however, these differences do not follow a consistent pattern. It would be expected that there would have been higher dissatisfaction ratios among the specialists included in Group 1, but this is not the case.

The most obvious outlier is the 50% dissatisfaction response rate among general surgeons.

Table 4.1 Percent of Physicians Expressing Satisfaction with Their Practice Environment

	Very Dissatisfied/ Dissatisfied	Neutral	Very Satisfied/ Satisfied
Specialists	41.7%	19.3%	39.0%
Family Medicine/Internal Medicine	40.1%	19.9%	40.1%
Pediatricians	34.7%	19.4%	45.8%
Group 1 – Tight/Tightening Labor Markets			
Internal Medicine	39.3%	19.5%	41.2%
Urology**	44.0%	28.0%	28.0%
Psychiatry	42.3%	14.1%	43.7%
Family Medicine	41.9%	21.0%	37.1%
Dermatology *	39.5%	26.3%	34.2%
General Surgery	50.0%	16.7%	33.3%
Group 1 - Tight/Tightening Labor Market Mean	**41.0%**	**19.8%**	**39.2%**
Group 2 - Relatively Tight Labor Markets Mean	**44.7%**	**18.7%**	**36.6%**
Group 3 - Soft Labor Markets Mean	**37.8%**	**19.4%**	**42.8%**
Survey Mean	**40.2%**	**19.5%**	**40.3%**

In Table 4.2 physician attitudes toward the practice environment are disaggregated by gender. The 2012 survey results are consistent with earlier versions of the Physician Workforce Study, in that female physicians are usually slightly more satisfied with their practice environment than their male counterparts.

Table 4.2 Physician Satisfaction with the Current Practice Environment Disaggregated by Gender

	Satisfied/ Very Satisfied	Neutral	Dissatisfied/ Very Dissatisfied
Female	42.5%	20.1%	37.3%
Male	39.0%	19.2%	41.8%
Total	**40.3%**	**19.5%**	**40.2%**

Finally, the average physician's responses to the Practicing Physician Survey were analyzed by age range. As can be observed from Table 4.3, these results follow a generally consistent pattern over the survey years. Typically, younger physicians are more satisfied with the practice environment, and older physicians are more dissatisfied with the current practice environment.

Table 4.3 Percentage of Physicians that are Dissatisfied or Very Dissatisfied with the Current Practice Environment Disaggregated by Age

	2012	2011	2010	2009	2008	2007	Mean 2002-2006
60 Years of Age and Over	46%	44%	45%	43%	51%	42%	50%
50-59 Years of Age	43%	49%	46%	49%	53%	50%	57%
40-49 Years of Age	34%	39%	38%	40%	46%	44%	54%
< 40 Years of Age	29%	27%	25%	28%	26%	34%	41%
Total	**40%**	**42%**	**41%**	**42%**	**47%**	**43%**	**51%**

4.2. Physician Attitudes toward their Professional Work Situation

This section of the report analyzes a wide range of survey results concerning the physician personal opinions and attitudes about a professional career in medicine, as well as the factors that impact on the physician's work situation. Table 4.4 illustrates the percentage of physicians that find the profession of medicine very rewarding/rewarding, neutral, or unrewarding/very unrewarding.

Table 4.4 Physician Opinions Regarding the Professional Rewards from the Profession of Medicine

	2012	2011	2010	2009	2002-2008
Very Rewarding/Rewarding	78%	81%	77%	85%	83%
Neutral	13%	11%	12%	10%	10%
Very Unrewarding/Unrewarding	9%	8%	11%	5%	7%

Given all references in this report to labor shortages and other closely-related negative occupational factors, it is encouraging to note that the vast majority of practicing physicians regard their career as very rewarding or rewarding. While this conclusion may be valid in the aggregate, disaggregated data show a slightly different picture.

In Table 4.5, survey responses to this question are disaggregated by the three specialty groups and across the six specialties categorized as facing either severe or critical labor market conditions.

Table 4.5 Percentage of Physicians that Consider the Profession of Medicine to be Rewarding

Specialty Groups	2012	2011	2010
Specialists	75%	80%	76%
Family Medicine/Internal Medicine	79%	80%	75%
Pediatrics	83%	88%	87%
Survey Mean	**78%**	**81%**	**77%**

Physicians Opinions Regarding Rewarding or Unrewarding Nature of the Profession of Medicine, 2012 Responses by Labor Market Categories

Group 1 - Tight/Tightening Labor Markets	Very Rewarding /Rewarding	Neutral	Very Unrewarding /Unrewarding
General Surgery	67%	20%	13%
Psychiatry	73%	8%	18%
Family Medicine	79%	13%	8%
Internal Medicine	79%	11%	10%
Urology	84%	8%	8%
Dermatology	84%	8%	8%
Group 1 - Tight/Tightening Labor Markets Mean	**78%**	**11%**	**10%**
Group 2 - Relatively Tight Labor Markets Mean	**73%**	**13%**	**14%**
Group 3 - Soft Labor Markets Mean	**78%**	**16%**	**6%**
Survey Mean	**78%**	**13%**	**9%**

Table 4.5 notes that the highest positive attitudes are in pediatrics (83%), followed by family and internal medicine (79%) and specialties (75%). Across the six specialties currently operating in either severe or critical labor there are several noticeable disparities. As the second half of Table 4.5 shows, nearly one out of five – 18% – of the psychiatrists consider their occupations to be very unrewarding or unrewarding. Additionally, the second half of Table 4.5 demonstrates that only two-thirds of general surgeons regard their profession as rewarding; however, this low ratio is somewhat mitigated by the fact that one-fifth of general surgeons feel neutral regarding the rewards of their occupation.

Table 4.6 illustrates the percentage of physicians that are dissatisfied or very dissatisfied with the tradeoff between patient care hours vis-à-vis administrative tasks. The second half of Table 4.6 examines physician opinions regarding the level of physician satisfaction with the tradeoffs between patient care and administrative tasks.

Table 4.6 Percentage of Physicians who are Dissatisfied or Very Dissatisfied with Tradeoff Between Patient Care Hours vis-à-vis Administrative Tasks

Specialty Groups	2012	2011	2010
Specialists	47%	47%	46%
Family Medicine/Internal Medicine	62%	63%	59%
Pediatrics	54%	53%	54%
Total	53%	53%	51%

Physician Opinions Regarding Tradeoff Between Patient Care Hours vis-à-vis Administrative Tasks, 2012 Responses by Labor Market Categories

Group 1 - Tight/Tightening Labor Markets	Very Satisfied /Satisfied	Neutral	Very Dissatisfied /Dissatisfied
Family Medicine	19%	10%	71%
Urology	20%	28%	52%
Dermatology	26%	18%	56%
Internal Medicine	27%	15%	58%
General Surgery	30%	20%	50%
Psychiatry	46%	11%	43%
Group 1 - Tight/Tightening Labor Markets Mean	**28%**	**15%**	**58%**
Group 2 - Relatively Tight Labor Markets Mean	**32%**	**18%**	**51%**
Group 3 - Soft Labor Markets Mean	**32%**	**21%**	**48%**
Survey Mean	**30%**	**17%**	**53%**

As Table 4.6 indicates, 53% of physicians surveyed report being dissatisfied or very dissatisfied with the tradeoff between patient care and administrative tasks. The variances across the means for the three labor market groups are relatively close, implying that labor market conditions – whether a market is tight or soft, for instance – do not impact the physicians' attitudes toward the tradeoff between patient care hours vis-à-vis administrative tasks.

Finally, one contradiction in findings of the Practicing Physician Survey is found related to the specialty of psychiatry in Table 4.5 and Table 4.6. In Table 4.5, 18% of psychiatrists responded that the profession of medicine was unrewarding, but in Table 4.6 approximately 46% of

psychiatrists indicated that they were satisfied with the tradeoff between patient care and administrative tasks. Perhaps psychiatrists have less administrative tasks than other specialties.

Table 4.7 illustrates the number of hours worked per week, by percentage of physicians from 2009 through 2012.

Table 4.7 Number of Physician Hours Worked per Week, 2009 through 2012, by Percentage of Physicians

Number of Hours Worked per Week	2012	2011	2010	2009
0-19	3%	2%	3%	6%
20-39	16%	13%	14%	19%
40-59	47%	46%	38%	39%
60-79	28%	31%	36%	30%
80-99	5%	6%	8%	6%
100-120	1%	1%	1%	1%
Total Responses	**100%**	**100%**	**100%**	**100%**

As one can see from Table 4.7, roughly 47% of physicians work between 40 to 59 hours per week. The range of hours worked per week has shown little variation over the four-year period illustrated in Table 4.7, which is somewhat surprising given the changing practice environment over the past four years.

Table 4.8 contains more detail on the allocation of physicians' work schedule.

Table 4.8 Mean Hours Worked by Activity

Specialty Groups	Patient Care Percent of Total	Research: Percent of Total	Teaching Percent of Total	Administrative Percent of Total
Specialists	66%	7%	8%	19%
Family Medicine/Internal medicine	64%	5%	6%	25%
Pediatrics	64%	7%	7%	22%
Group 1 - Tight/Tightening Labor Markets				
Urology	75%	4%	6%	16%
Dermatology	72%	2%	7%	18%
Family Medicine	65%	0%	7%	28%
Internal Medicine	63%	6%	6%	24%
General Surgery	62%	10%	10%	18%
Psychiatry	60%	4%	9%	25%
Group 1 - Tight/Tightening Labor Markets Mean	**64%**	**5%**	**7%**	**24%**
Group 2 - Relatively Tight Labor Markets Mean	**62%**	**8%**	**9%**	21%
Group 3 - Soft Labor Markets Mean	**66%**	**7%**	**8%**	**18%**
Survey Mean	**65%**	**6%**	**7%**	**21%**

As one can see from Table 4.8, the degree of tightness in labor market conditions seems to have very little impact of the amount of physician time allocated to patient care, given the clustering of the average responses from Groups 1, 2, and 3. Additionally, Table 4.8 demonstrates that the administrative burden falls heaviest on the specialties in Group 1, especially on family medicine, internal medicine and psychiatry. It is interesting to note that two of the specialties in Group 1, namely, urology and dermatology, have the highest percent of their time allocated to patient care, when compared to the other specialties.

4.3 Physician Satisfaction with the Work Environment and Plans to Change Careers or Move Out of State

The Physician Workforce Study asks physicians a series of questions about whether the adversity of the practice environment affected whether physicians are considering either a career change or a move out of Massachusetts. Section 4.3 analyzes physician responses to these questions. Table 4.9 illustrates the percentage of Massachusetts physicians planning to leave the state, given the current practice environment.

Table 4.9 Percent of Physicians Planning to Move Out of Massachusetts, 2012

	Percent Planning to Move Out	If Current Practice Environment Does Not Change, Will Move Out
Specialists	6.9%	23.1%
Family Medicine/Internal Medicine	6.5%	20.3%
Pediatrics	6.3%	10.5%
Group 1 - Tight/Tightening Labor Markets		
General Surgery	13.3%	30.0%
Urology	13.0%	30.4%
Family Medicine	8.7%	15.5%
Dermatology	7.7%	33.3%
Internal Medicine	5.6%	22.1%
Psychiatry	2.8%	11.3%
Group 1 - Tight/Tightening Labor Markets Mean	**6.8%**	**21.0%**
Group 2 - Relatively Tight Labor Markets Mean	**8.3%**	**20.0%**
Group 3 - Soft Labor Markets Mean	**6.1%**	**19.9%**
Survey Mean	**6.7%**	**20.5%**

Table 4.9 illustrates that, overall, approximately 6.7% of physicians currently practicing in Massachusetts are planning to move out of the state as a result of the practice environment. Moreover, approximately 20.5% of physicians currently practicing in Massachusetts are planning to move out of the state if the current practice environment does not change. Additionally, approximately 30% of general surgeons, 30.4% of urologists, and 33.3% of dermatologists in the state indicated that they would consider moving out of Massachusetts if the current practice environment does not change.

Table 4.10 illustrates the percentage of physicians considering a career change from the profession of medicine by degree of satisfaction with the current practice environment. Overall, 27% of surveyed physicians indicated that they were considering a career change, with another 19% of survey physicians indicating a career change was a possibility. For physicians who express a very high degree of satisfaction with the current practice environment only a very small fraction currently contemplate a change, but their ratio rises to nearly 20% among those physicians that are dissatisfied or very dissatisfied with the current practice environment. This cross-sectional analysis indicated that the decision to change careers is not statistically independent from one's attitude toward practice environment.

Table 4.10 Percentage of Physicians Considering Career Change, by Satisfaction with Current Practice Environment

	Yes	No	Not sure	Total
Very Satisfied	2.1%	13.6%	4.2%	9.3%
Satisfied	12.0%	41.4%	22.6%	31.4%
Neutral	16.5%	20.2%	20.0%	19.3%
Dissatisfied	43.8%	21.8%	40.0%	30.0%
Very Dissatisfied	25.6%	3.0%	13.2%	10.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Another way to analyze this issue is to cross tabulate the physician responses relating to degree of physician satisfaction with the practice environment to their plans to move out of Massachusetts. Table 4.11 illustrates the percentage of physicians that are considering moving out of Massachusetts, by satisfaction with the current practice environment. The cross-tabulation for this analysis is statistically significant, thus indicating that the decision to move out of Massachusetts is affected by the degree of satisfaction with the current practice environment. Among the 6.7% percent of the currently practicing physicians who are planning to leave Massachusetts, three-fourths of these cite the adverse practice environment as the underlying cause.

Table 4.11 Percentage of Physicians Contemplating a Move Out of Massachusetts, By Satisfaction with Current Practice Environment

	Yes	No	Not sure	Total
Very Satisfied	4.2%	12.2%	0.5%	9.3%
Satisfied	7.0%	36.8%	20.4%	31.4%
Neutral	14.1%	19.7%	19.9%	19.4%
Dissatisfied	42.3%	25.9%	41.7%	30.2%
Very Dissatisfied	32.4%	5.4%	17.6%	9.7%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**

4.4 Physician Attitudes Concerning the Competitiveness of their Income Levels and Future Salary Expectations

There are many reasons why physicians desire to practice in Massachusetts, including the clustering of medical and health care facilities and the research-intensive nature of the medical environment. But in the final analysis, salary competitiveness is a negative factor when considering practicing medicine in Massachusetts. The Practicing Physician Survey included two important questions to determine the opinions and attitudes of local physicians on their income levels and their future salary expectations. The first question asks physicians about how they feel their income rates today compared to the income for their specialty in other states. The survey results for this question are featured in Table 4.12. The second question asks physicians whether they expect their salary to rise, fall, or remain the same over the next five years. The survey results for the second question are featured in Table 4.14.

Table 4.12 Rating of Current Income Levels to Levels of Colleagues in Other States

Specialty Groups	Very Competitive/ Competitive	Very Uncompetitive/ Uncompetitive	Neutral
Specialists	19.0%	58.3%	22.6%
Family Medicine/Internal Medicine	27.1%	43.5%	29.4%
Pediatrics	42.3%	26.1%	31.7%
Group 1 - Tight/Tightening Labor Markets			
General Surgery	16.7%	56.7%	26.7%
Psychiatry	20.0%	45.7%	34.3%
Urology	25.0%	58.3%	16.7%
Internal Medicine	26.3%	44.7%	29.0%
Family Medicine	29.3%	40.4%	30.3%
Dermatology	36.8%	50.5%	13.2%
Group 1 - Tight/Tightening Labor Markets Mean	**26.2%**	**45.7%**	**28.1%**
Group 2 - Relatively Tight Labor Markets Mean	**19.3%**	**56.3%**	**24.4%**
Group 3 - Soft Labor Markets Mean	**24.9%**	**50.8%**	**24.2%**
Survey Mean	**24.9%**	**48.9%**	**26.2%**

Table 4.12 illustrates that approximately one quarter of physicians currently operating in Massachusetts considers their current salary levels competitive or very competitive, whereas nearly half of physicians in Massachusetts find their salaries uncompetitive or very uncompetitive. Moreover, Table 4.12 highlights that specialists are more likely to view their existing levels of compensation as uncompetitive, as compared to primary care physicians and pediatricians. This is consistent with expectations in that these highly trained specialists often have alternative employment opportunities from competitive medical centers around the country. Approximately, 58% of the specialties surveyed viewed their current salary levels as uncompetitive. Amongst the six specialties in Group 1 (those specialties in tight/tightening labor markets), a slightly higher ratio of physicians responded that they regarded their salary levels to be competitive, than specialists in other groups.

A final way to look at the issue of interstate salary competitiveness is to determine the extent that it influences physicians on whether to leave Massachusetts. Table 4.13 examines the percentage of physicians contemplating a move out of the state of Massachusetts, by salary competitiveness.

Table 4.13 Percentage of Physicians Contemplating a Move Out of State, By Salary Competitiveness

	Yes	No	No, but I will if the situation doesn't change
Very competitive	2.9%	4.9%	1.9%
Competitive	5.8%	25.0%	10.7%
Neutral	17.4%	28.8%	26.3%
Uncompetitive	53.6%	33.4%	37.8%
Very uncompetitive	20.3%	7.9%	19.1%
Total	**100.0%**	**100.0%**	**100.0%**

Approximately 75% of the physicians surveyed responded that the market in which they practice is uncompetitive or very uncompetitive as compared to other states. Only 2.9% of physicians who felt their salary levels were very competitive as compared to other states were currently planning to move out of state. Similarly, only 5.8% of physicians that felt their salary levels were competitive as compared to other states were currently planning to move out of state.

Among those who responded that they are not now planning to move, but will do so if the practice environment does not improve, 56.1% considered their salaries to be either uncompetitive or very uncompetitive.

Table 4.14 illustrates Massachusetts physicians' expectations with regards to salary from 2006 through 2012. From 2009 to 2012, there has been a significant fall off in salary expectations, with 30% of physicians expecting their salaries to be lower than the current level in five years in 2009 and 43% of physicians expecting their salaries to be lower than current levels in five years in 2012.

Table 4.14 Physicians Salary Expectations over the Next Five Years, 2006-2012

	Above Current Level	About the Same	Below Current Level
2012	10%	47%	43%
2011	11%	46%	43%
2010	14%	46%	39%
2009	15%	55%	30%
2008	14%	57%	29%
2007	15%	56%	29%
2006	15%	55%	30%

In order to provide additional insight into the issue of salary expectations, Table 4.15 disaggregates the data by the three principal labor market groups, as well as those specialties in Group 1.

Table 4.15 Percent of Responses to the Question on Physician Salary Expectations over the Next Five Years

Specialty Groups	Above Current Level	About the Same	Below Current Level
Specialists	6.5%	38.3%	55.2%
Family Medicine/Internal Medicine	15.1%	52.4%	32.4%
Pediatrics	10.5%	64.3%	25.2%
Group 1 - Tight/Tightening Labor Markets			
Dermatology	2.6%	28.2%	69.2%
Urology	4.2%	33.3%	62.5%
Psychiatry	11.4%	57.1%	31.4%
General Surgery	13.3%	30.0%	56.7%
Family Medicine	15.1%	51.9%	33.0%
Internal Medicine	15.2%	52.7%	32.2%
Group 1 - Tight/Tightening Labor Markets Mean	**13.1%**	**49.2%**	**37.7%**
Group 2 - Relatively Tight Labor Markets Mean	**4.2%**	**41.7%**	**54.2%**
Group 3 - Soft Labor Markets Mean	**7.7%**	**45.0%**	**47.2%**
Survey Mean	**10.0%**	**46.7%**	**43.2%**

As Table 4.15 illustrates approximately 55.2% of specialists believe that their salary levels will be below their current levels in the next five years. However, only 32.4% of family medicine and internal medicine physicians and 25.2% of pediatricians believe that their salary levels will be below their current levels in the next five years.

Table 4.16 and Table 4.17 provide more detailed average physician opinions with regards to salary expectations and salary competitiveness in comparison to other states for all 18 specialties surveyed.

Table 4.16 Physician Salary Expectations Over Next Five Years: Percentage of Physicians Indicating Salary Will Likely Be Below Current Level

Specialties	2012	2011	2010	2009
Vascular Surgery	79%	40%	69%	57%
Orthopedics	77%	75%	59%	54%
Cardiology	75%	65%	64%	53%
Dermatology	69%	62%	58%	31%
Radiology	68%	85%	46%	64%
Neurosurgery	67%	75%	63%	46%
Urology	63%	61%	64%	45%
Gastroenterology	60%	79%	67%	29%
General Surgery	57%	49%	58%	48%
Obstetrics and Gynecology	50%	48%	42%	39%
Anesthesiology	48%	44%	50%	26%
Neurology	41%	37%	46%	23%
Oncology	40%	54%	46%	35%
Emergency Medicine	39%	29%	23%	20%
Psychiatry	31%	22%	33%	22%
Family Practice/Internal Medicine				
Internal Medicine	32%	33%	34%	28%
Family Medicine	33%	29%	17%	26%
Pediatrics				
Pediatrics	25%	34%	26%	21%
Total	**43%**	**43%**	**40%**	**30%**

Table 4.17 Salary Competitiveness Compared to Specialty in Other States: Percentage of Physicians Indicating Salaries are Uncompetitive/Very Uncompetitive

Specialties	2012	2011	2010	2009
Neurosurgery	89%	100%	81%	79%
Cardiology	71%	63%	82%	65%
Orthopedics	69%	69%	80%	83%
Anesthesiology	67%	47%	62%	65%
Obstetrics and Gynecology	64%	52%	58%	77%
Radiology	63%	70%	50%	55%
Urology	58%	77%	70%	73%
Neurology	58%	59%	61%	43%
Vascular Surgery	57%	70%	71%	71%
General Surgery	57%	78%	67%	76%
Gastroenterology	56%	50%	75%	67%
Oncology	52%	69%	70%	70%
Dermatology	50%	47%	45%	33%
Psychiatry	46%	56%	55%	54%
Emergency Medicine	41%	38%	47%	49%
Family Practice/Internal Medicine				
Family Medicine	40%	46%	54%	52%
Internal Medicine	45%	44%	53%	53%
Pediatrics				
Pediatrics	26%	37%	39%	41%
Total	**49%**	**53%**	**57%**	**57%**

Section 5: Health Reform

Health care purchasers in the U.S. are about to face significant changes in the approaches used to pay for health care. Recently, purchasers and insurers have been experimenting with payment models that include incentives to improve quality and reduce the use of unnecessary and costly services.[28] The federal government has given a new impetus to these payment methods within the Patient Protection and Affordable Care Act of 2010. These payment approaches are designed to achieve two interrelated goals: quality improvement and cost containment. Cost containment aims to reverse the incentives under fee-for-service payment to increase the use of services by shifting some amount of financial risk to providers, spurring them to consider the costs of their decisions.

In response to continuing concerns about medical spending growth in Massachusetts, there has been active discussion about these new payment models.[29] In the Practicing Physician Survey questions are included related to both national and local health care reform efforts currently underway. The first question in the survey asks respondents about the U.S. health care system, while the remaining questions are related to Massachusetts payment reform.

5.1 Practicing Physicians Opinions on U.S. Health Care System Reform

A question was added to the Practicing Physician Survey in 2010 to document how physicians view upcoming system changes in national health care reform. The following question was asked again this year of each of the respondents:

Which of the following would you choose as the best option for the U.S. health care system?

The percent of practicing physicians choosing each response is outlined below:

1. Both public and private plans with a public buy-in option (allow businesses and individuals to enroll in a public Medicare-like health insurance plan that would compete with private plans) -- 22%

2. Keep the existing mix of public and private plans, but allow insurers to sell plans with limited benefits and high deductibles to keep premiums low. State subsidies would help low-income individuals buy insurance. Individuals could choose to buy a less expensive catastrophic plan, more expensive comprehensive coverage, or no insurance at all -- 18%

3. The recent national plan (Patient Protection and Affordable Care Act) passed by Congress in 2010 (modeled after the Massachusetts health reform law of 2006). This

[28] Schneider, E., Hussey, P.S., Schnyer, C. (2012). Payment Reform Analysis of Models and Performance Measurement Implications. RAND Technical Report. Accessed on March 20, 2012 at: http://www.rand.org/pubs/technical_reports/TR841.html

[29] Hsu, J., Chernew, M., Landon, B., Rosenthal, M. (2012). Massachusetts Medical Society Physician Survey on Global Payments. Accessed on March 20, 2012 at: http://www.massmed.org/AM/Template.cfm?Section=Research_Reports_and_Studies2&CONTENTID=69867&TEMPLATE=/CM/ContentDisplay.cfm.

plan includes an individual mandate, expansion of public programs, American Health Benefit Exchanges, changes to private insurance including prohibiting the denial of coverage for preexisting conditions, and employer requirements—19%

4. Single-payer national health care system offering universal health care to all U.S. residents -- 38%

5. Other (please specify) -- 4%

Results indicate that while more than one-third of respondents indicated that they preferred a single-payer option, 62% prefer options other than single-payer. Only 19% favored the current national health plan.

The table below indicates that most physicians prefer options other than single payer as the best option for U.S. health care reform.

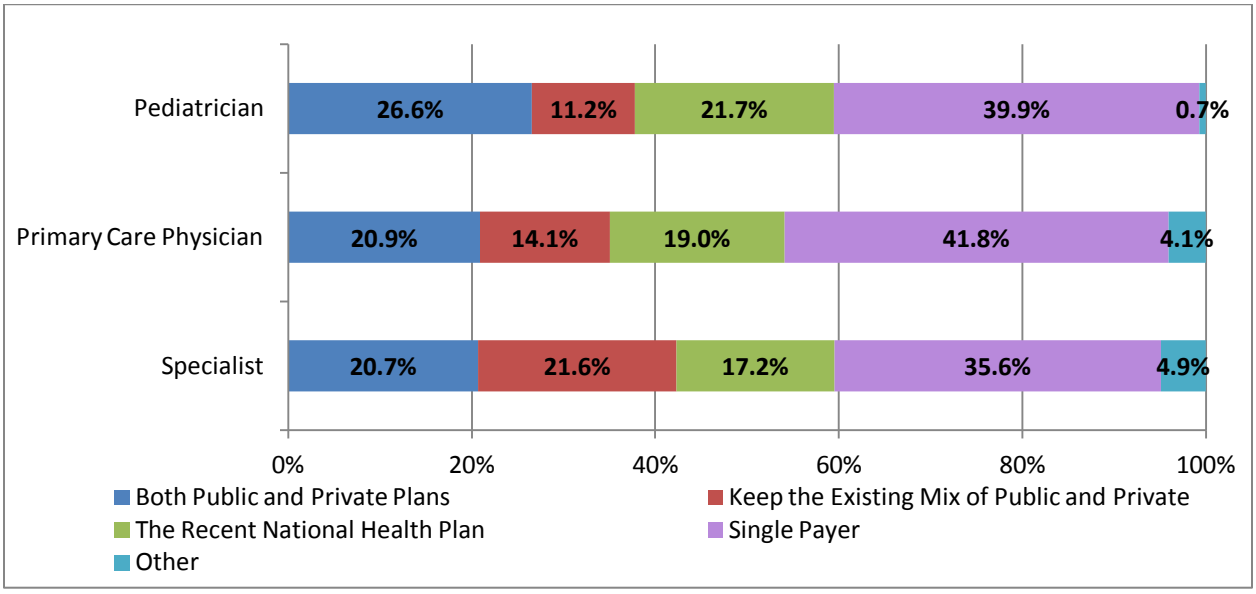
Table 5.1
Health Care Reform Question, 2010-2012

	2012	2011	2010
Both public and private plans	22%	23%	32%
Keep the existing mix of public and private	18%	15%	17%
Recent national plan	19%	17%	14%*
Single payer	38%	41%	34%
Other	4%	4%	3%
Total	100%	100%	100%

*The 2010 survey did not have an option 3) recent national plan (PPACA). Instead last year's survey included the following option: Model health care reform based on the Massachusetts health law of 2006, offering a national insurance exchange, government subsidies to low-income people to purchase health insurance, a mandate requiring residents who are not eligible for subsidized plans to buy insurance or be fined, and fine employers who do not offer adequate health care plans to their employees.

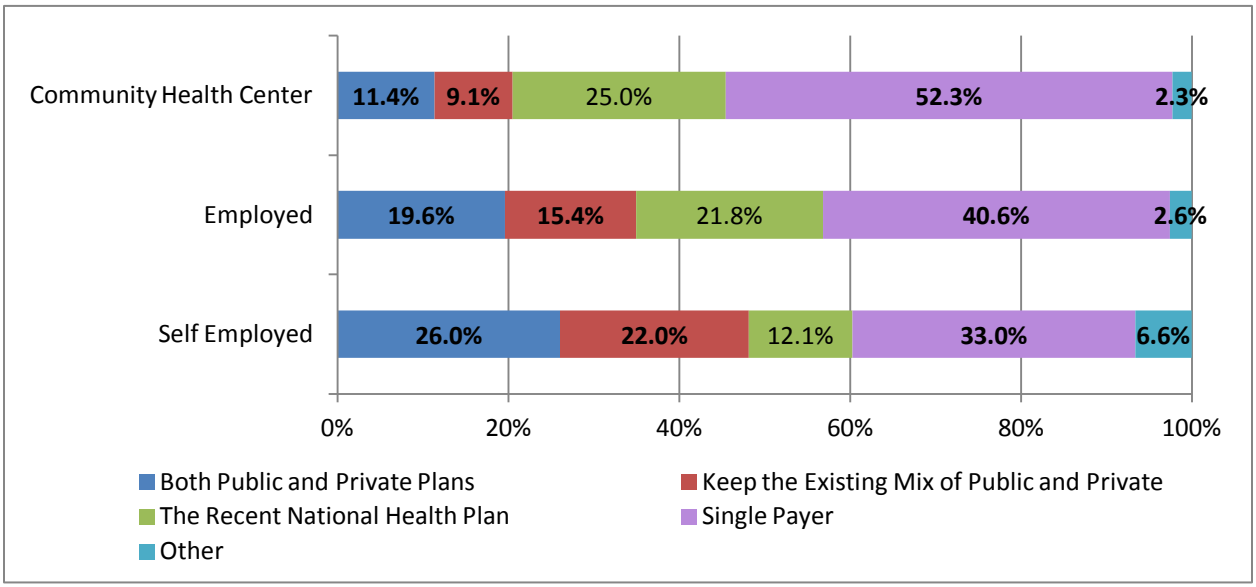
The following chart provides a breakdown of responses to the health care reform question comparing primary care to specialists and pediatricians. Findings were significant at $p=0.006$ and indicate that primary care physicians were more likely to prefer the single payer option, while specialists were the least likely to prefer the single payer option and more likely to prefer the first two options, both public and private plans and keep the existing mix.

Chart 5.1
Health Care Reform Opinions, By Specialty Group



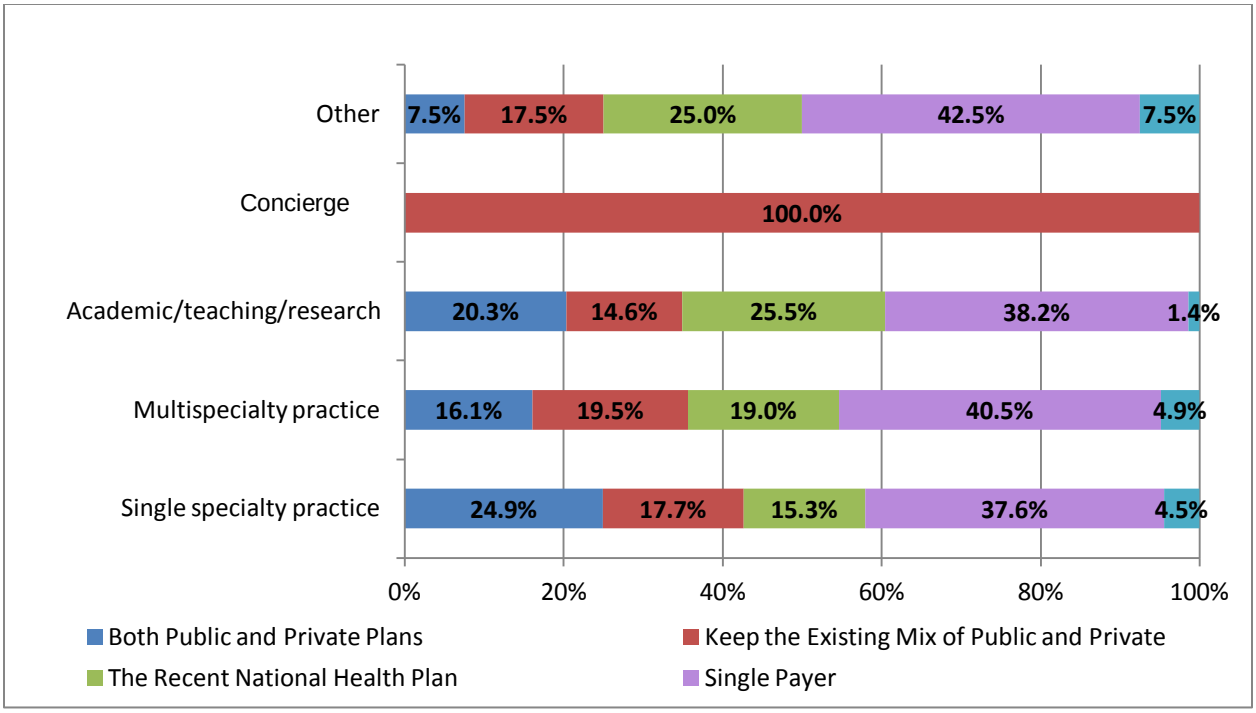
The following chart provides a breakdown of responses to the health care reform question comparing self-employed physicians to physicians employed at a health care organization to physicians employed at a Community Health Center. Findings were significant at p=0.000 and indicate that Community Health Center physicians were more likely to prefer the single payer option, while self-employed physicians were the least likely to prefer the single payer option and the most likely to prefer the first two options, both public and private plans and keep the existing mix. It should be noted that physicians employed at a health care organization are more likely to prefer the single payer option than the first two options, both public and private plans and keep the existing mix.

Chart 5.2
Health Care Reform Opinions by Employment Arrangement



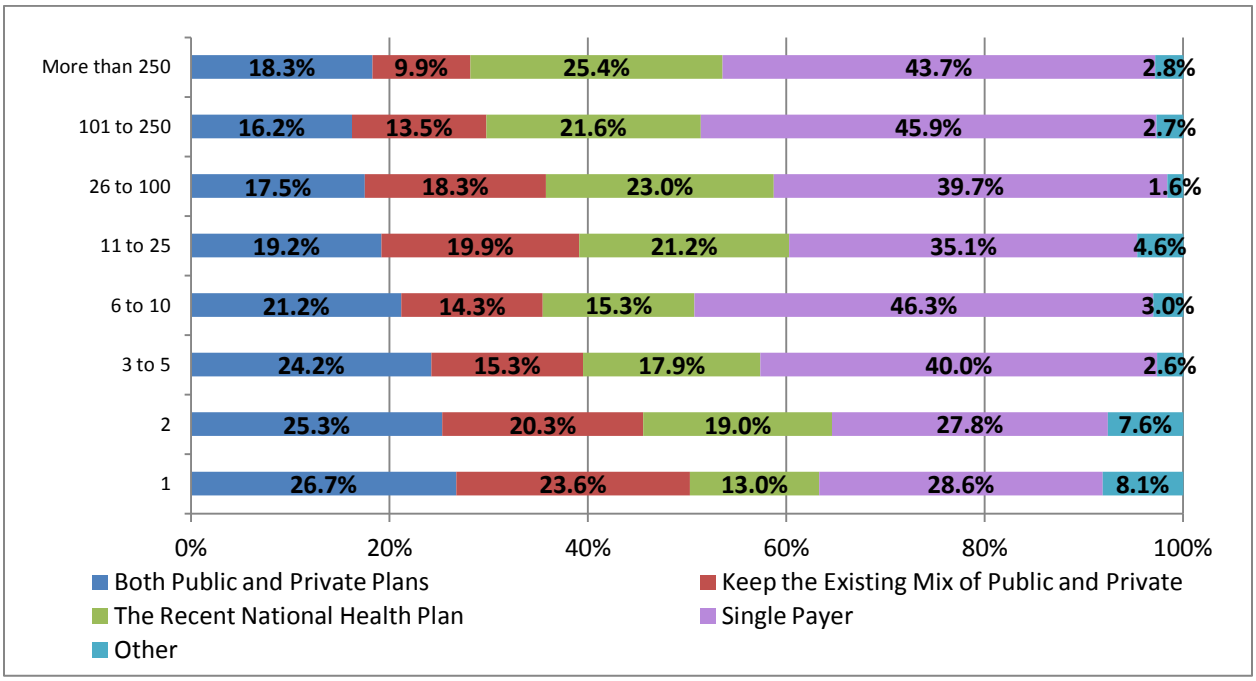
Health care reform question results were statistically significant (p=0.003) by main practice. Approximately 42.6% of single-specialty physicians, 35.6% of multispecialty physicians, 34.9% of academic/teaching/research physicians, 100% of concierge physicians, and 25% of other physicians prefer the first two options, both public and private plans and keep the existing mix.

Chart 5.3
Health Care Reform Opinions, By Main Practice



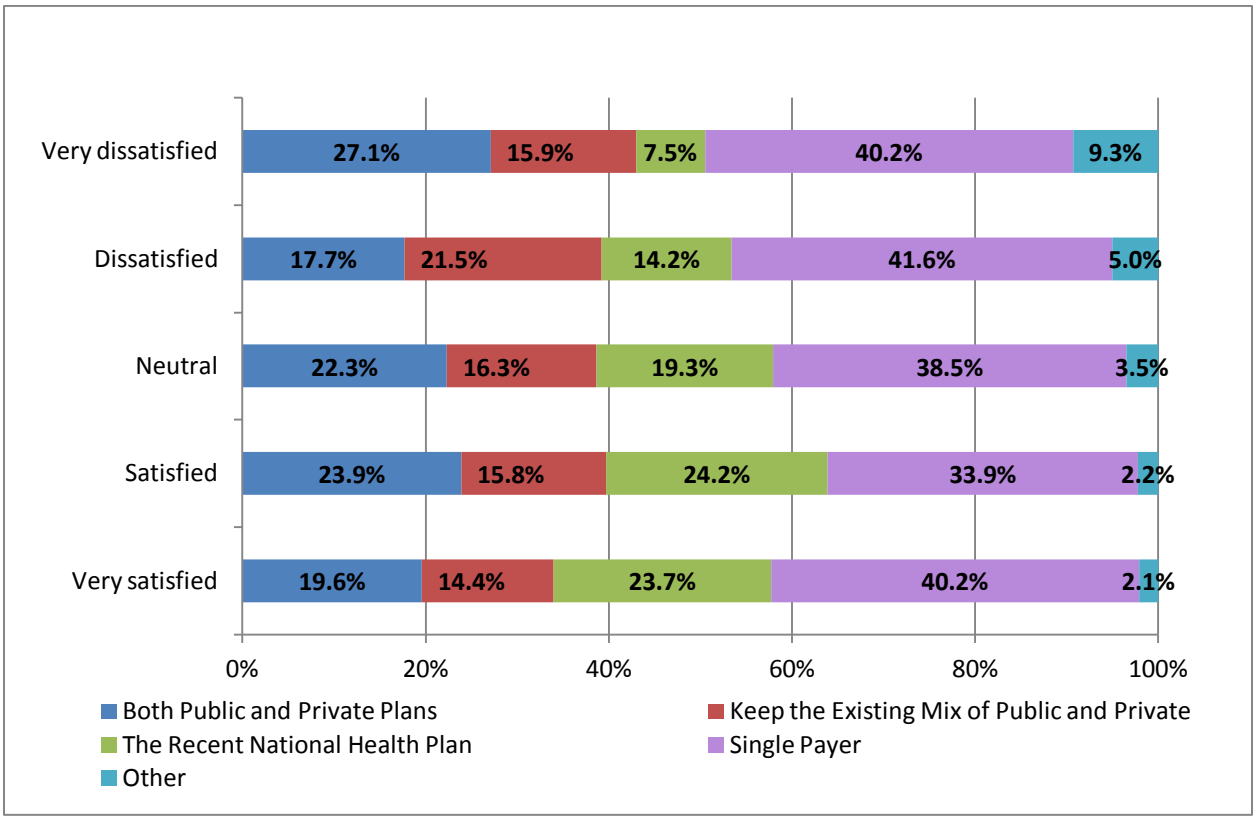
The following chart provides a breakdown of responses to the health care reform question comparing physician response by practice size. Findings were significant at p=0.018 and indicate that physicians' responses to the health care reform question differ by practice size.

Chart 5.4
Health Care Reform Opinions, By Practice Size



The following chart provides a breakdown of responses to the health care reform question by level of physician satisfaction with the current practice environment. Findings were significant at p=0.000 and indicate that health reform opinions were generally split and vary only slightly by physician satisfaction. Approximately 34% of very satisfied physicians and 39.7% of satisfied physicians preferred the first two options, both public and private plans and keep the existing mix, in comparison to 43% of very dissatisfied and 39.2% of dissatisfied physicians and 38.6% of neutral physicians. Roughly 40.2% of very satisfied physicians and 33.9% of satisfied physicians preferred a single payer option, in comparison to 40.2% of very dissatisfied and 41.6% of dissatisfied physicians and 38.5% of neutral physicians.

Chart 5.5
Health Care Reform Opinions, By Satisfaction with Current Practice Environment



5.2 Practicing Physicians' Views on Massachusetts Payment Reform

We asked physicians several questions about payment reform initiatives currently being considered in Massachusetts. Initiatives under review include global payments and accountable care organizations (ACOs). In order to gauge physicians' readiness to participate in global payments and ACOs, we also included questions on electronic health systems, cited by policy experts as crucial elements to global payments and ACOs. The following is a summary of findings:

Global Payments

- More than half of physicians (65.1%) surveyed are familiar or very familiar with global payments.
- However, less than half (48.7%) are likely to participate in a voluntary global payment system.
- Self-employed physicians are less likely to indicate they would participate in global payment systems (43.4%) in comparison to employed physicians (61.6%).
- Physicians that are either very satisfied (70.3%), satisfied (67.2%) or that feel neutral (52.3%) regarding satisfaction are more likely to participate in a voluntary global payment system in comparison to those physicians that are either dissatisfied (51.9%) or very dissatisfied with practicing medicine (33.3%).

Accountable Care Organizations

- About 73.5% of physicians are familiar with ACOs, but only 59.9% of physicians are likely to participate in voluntary ACOs.
- Primary care physicians (78.9%) are more familiar with ACOs in comparison to specialists (64.8%) and pediatricians (71.9%).
- Pediatricians (72.7%) are more likely to participate in voluntary ACOs in comparison to specialists (60.9%) and primary care physicians (71.2%).
- Physicians working in large practices of more than 250 physicians (84.3%) are more likely to participate in a voluntary ACO in comparison to physicians working in solo physician offices (51.3%). Physicians working for practices sizes of between 11 and 25 physicians (68.9%) and physicians working for practices with between 26 and 100 physicians (70.8%) were more likely to participate in a voluntary ACO program as well.

Global Payments

Over 45% of physicians surveyed indicated that they were somewhat familiar with global payment systems, whereas 19.5% indicated they were very familiar with how global payments work.

Chart 5.6
How familiar are you with how a global payment system would work for physicians in your specialty?

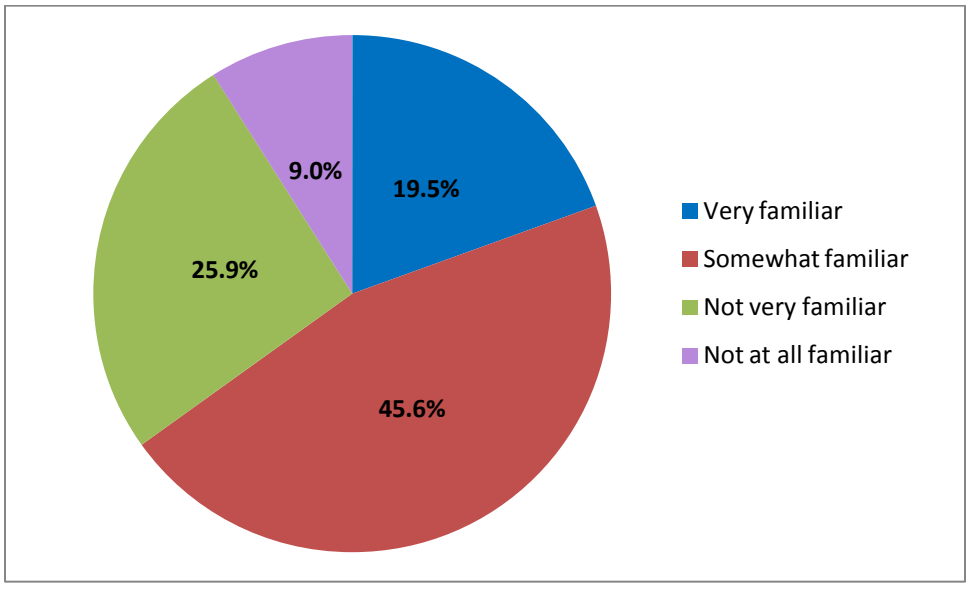


**Chart represents total sample.*

However, slightly less than half of respondents (48.7%) indicated that they would participate in a voluntary global payment system.

Chart 5.7
How likely would you be to participate in a global payment system that was voluntary?

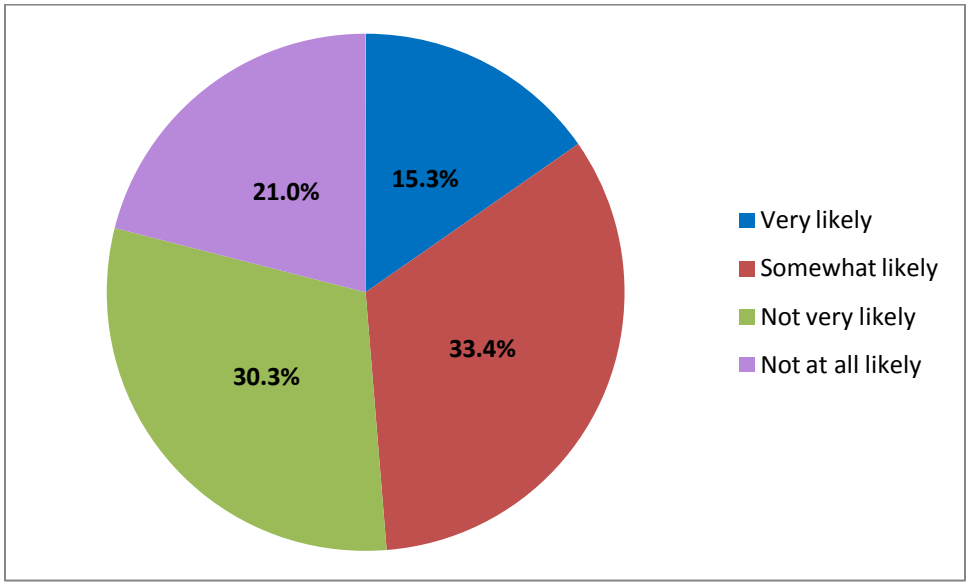


**Chart represents total sample.*

We also conducted chi-square analysis to determine who was most familiar with and most likely to participate in global payments by various factors. The analysis for likelihood to participate in global payments is based only on physicians who indicated they were very familiar or somewhat familiar with global payments.

Findings varied significantly (p=0.000) for familiarity of global payment systems by age with physicians age 60 to 69 years being the most familiar with global payments (71.5%). See Chart 5.8 below for a breakdown of findings. Likelihood of participating in global payments did not differ significantly by age.

Chart 5.8
Practicing Physician Familiarity with Global Payments by Age Range

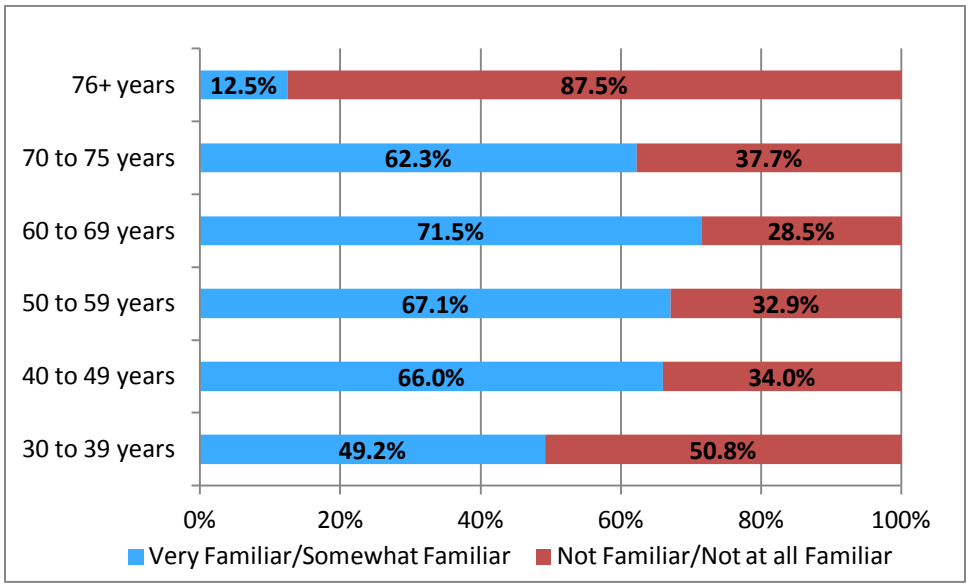


**Chart represents total sample.*

As Chart 5.9 demonstrates, familiarity with global payment systems varied significantly by employment arrangement (p=0.048). Similarly, likelihood of participating in a voluntary payment reform system varied significantly by employment arrangement (p=0.000). Specifically, self-employed physicians were less likely to indicate that they would participate in a voluntary global payment system compared to employed and community health center physicians as indicated in Chart 5.10.

Chart 5.9
Practicing Physician Familiarity with Global Payments by Employment Arrangement

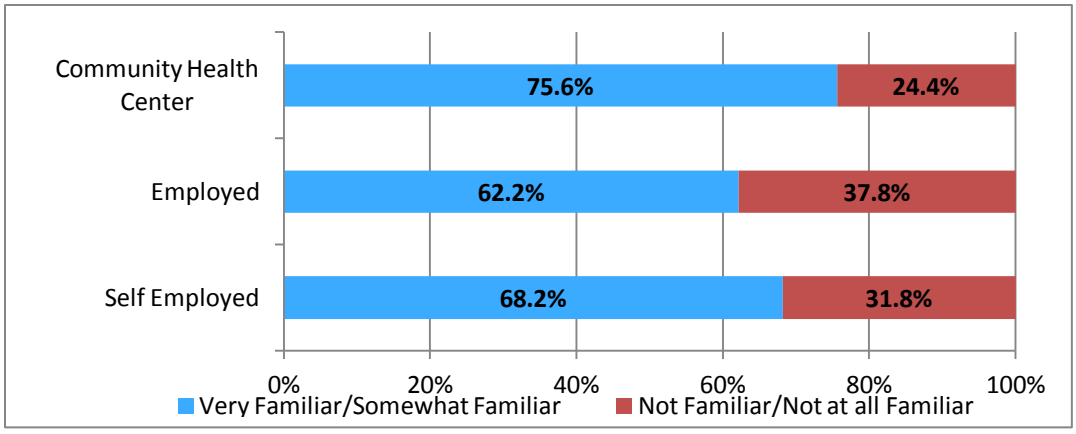


**Chart represents total sample.*

Chart 5.10
Practicing Physician Likelihood to Participate in a Global Payment System by Employment Arrangement

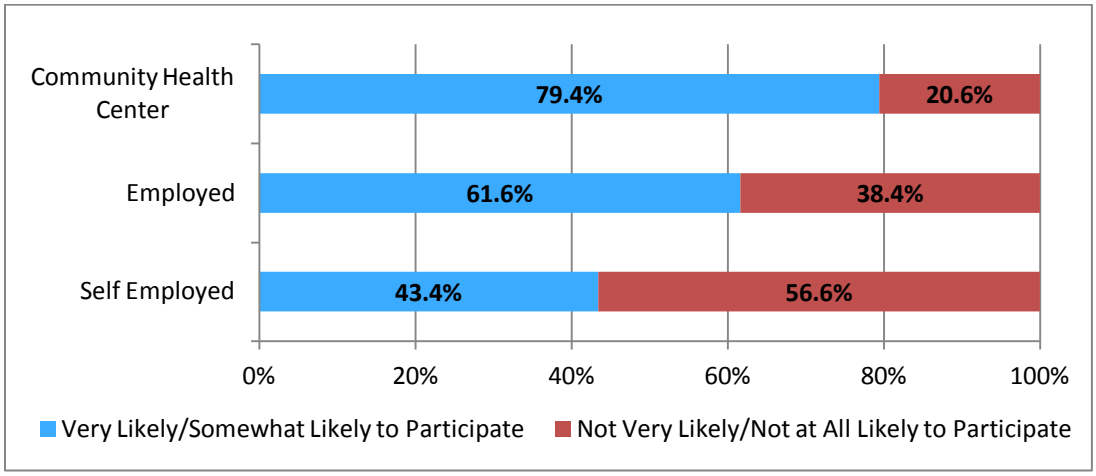


**Chart represents physicians who indicated they were very familiar or somewhat familiar with global payments.*

Familiarity with global payment systems (p=0.022) and likelihood of participating in voluntary global payment systems (p=0.00) varies significantly by physician satisfaction with the current practice environment. As Chart 5.11 indicates, physicians who are very dissatisfied with the current practice environment are most likely to be familiar with global payment systems. As Chart 5.12 indicates, of those who indicated they were familar with global payments, physicians that are either very satisfied (70.3%), satisfied (67.2%) or who felt neutral (52.3%) about their satisfaction with practicing as a physician are more likely to participate in a voluntary global payment system than those physicians who are dissatisfied with the current practice environment.

Chart 5.11
Practicing Physician Familiarity with Global Payments by Satisfaction with Current Practice Environment

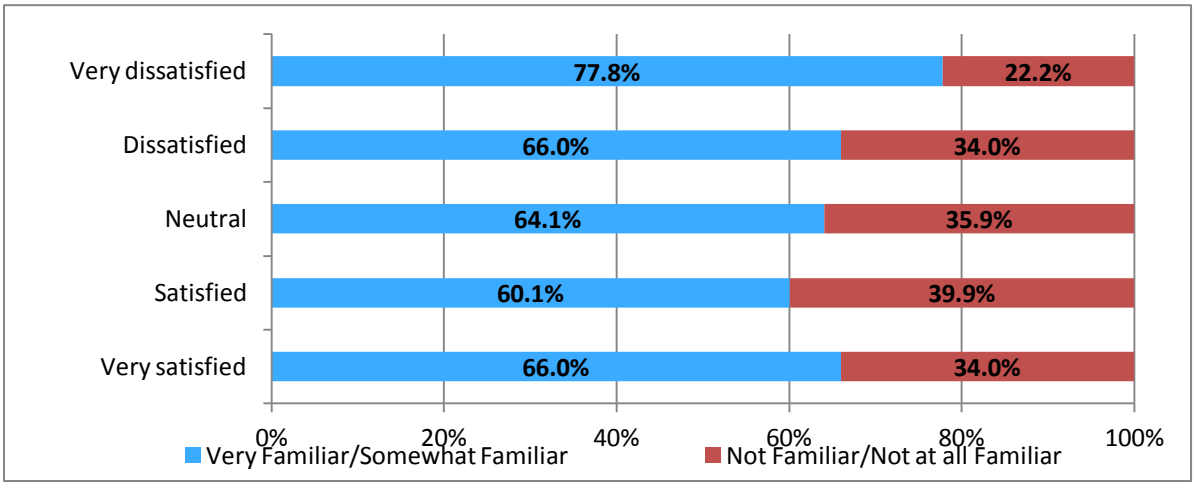


Chart represents total sample.

Chart 5.12
Practicing Physician Likelihood to Participate in a Global Payment System by Satisfaction with Current Practice Environment

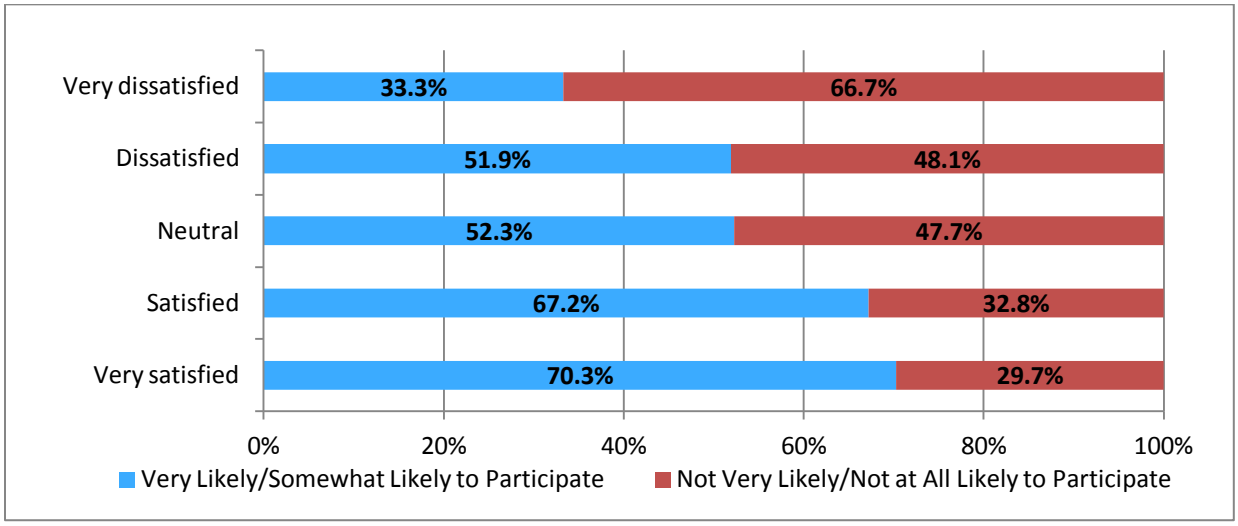


Chart represents physicians who indicated they were very familiar or somewhat familiar with global payments.

Physicians who are very dissatisfied (72.5%) with the number of hours spent on patient care in comparison to administrative tasks are most familiar with global payment systems, as compared to more satisfied physicians (p=0.003). Of the physicians who indicated they were familar with global payments, physician responses vary by satisfaction with number of hours spent on patient care in relation to administrative tasks (p=0.009).

Chart 5.13
Practicing Physician Familiarity with Global Payment Systems by Satisfaction with Number of Hours Spent on Patient Care vs. Administrative Tasks

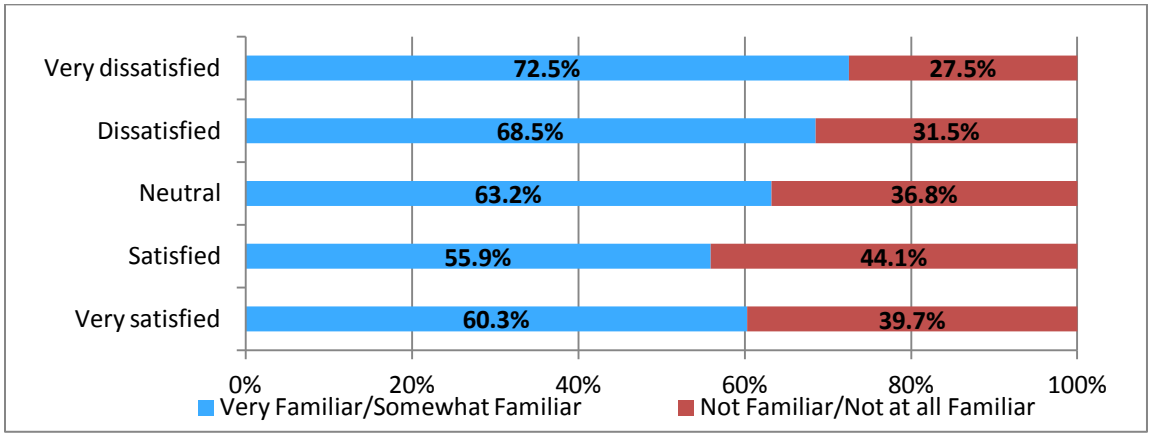


Chart represents total sample.

Chart 5.14
Practicing Physician Likelihood to Participate in a Global Payment System by Satisfaction with Number of Hours Spent on Patient Care vs. Administrative Tasks

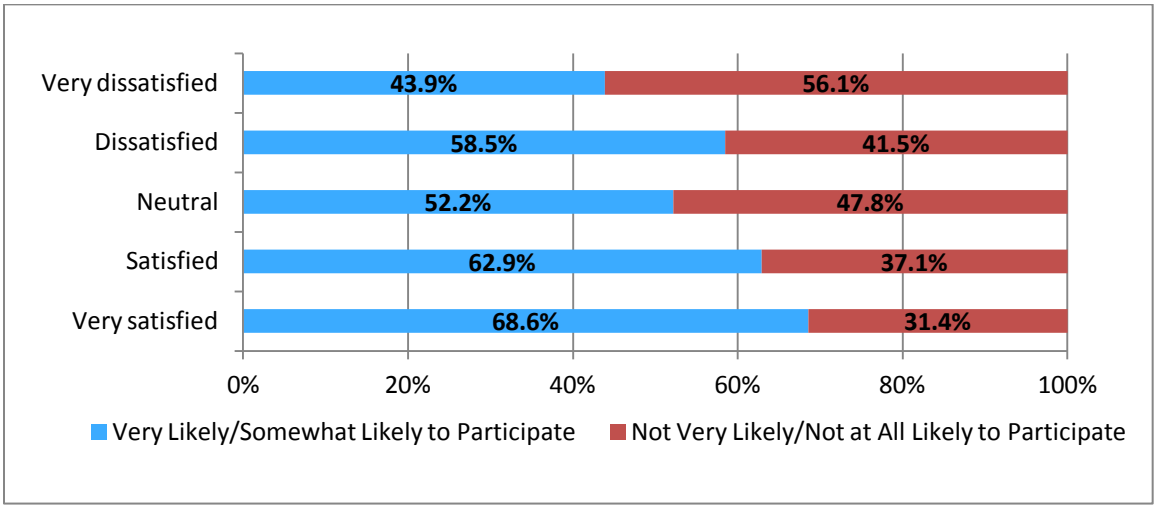


**Chart represents physicians who indicated they were very familiar or somewhat familiar with global payments.*

Accountable Care Organizations (ACOs)

Physicians were asked about the familiarity with ACOs and their likelihood of participating voluntarily in ACOs. Findings from these questions are outlined in Chart 5.15 and Chart 5.16 below. Chart 5.15 shows that over 54% of physicians are somewhat familiar with ACOs and 19.1% of physicians are very familiar with ACOs. However, Chart 5.16 shows only 19.3% of physicians indicated they were very likely to participate in ACOs, and 40.6% of physicians indicated that they would be somewhat likely to participate in ACOs.

Chart 5.15
How familiar are you with ACOs?

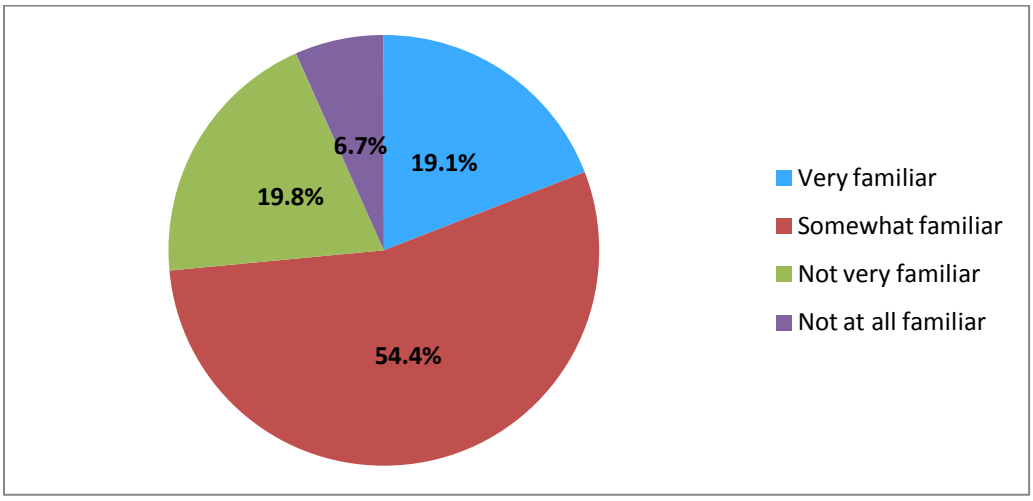


**Chart represents total sample.*

Chart 5.16
How likely would you be to participate in an ACO that was voluntary?

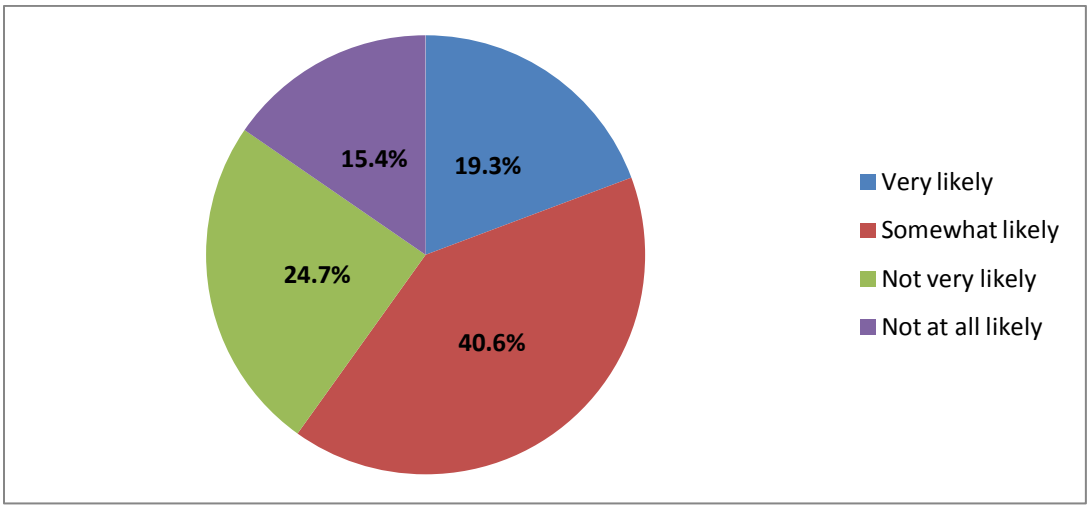


**Chart represents total sample.*

Using chi-square analysis, we examined whether familiarity with and likelihood of participating in ACOs varied significantly by age. Familiarity with ACOs varied significantly by age (p=0.006). Similarly, of those who were familiar with ACOs, likelihood to participate in an ACO varied by age (p=0.021).

Chart 5.17
Practicing Physician Familiarity with ACOs by Age Range

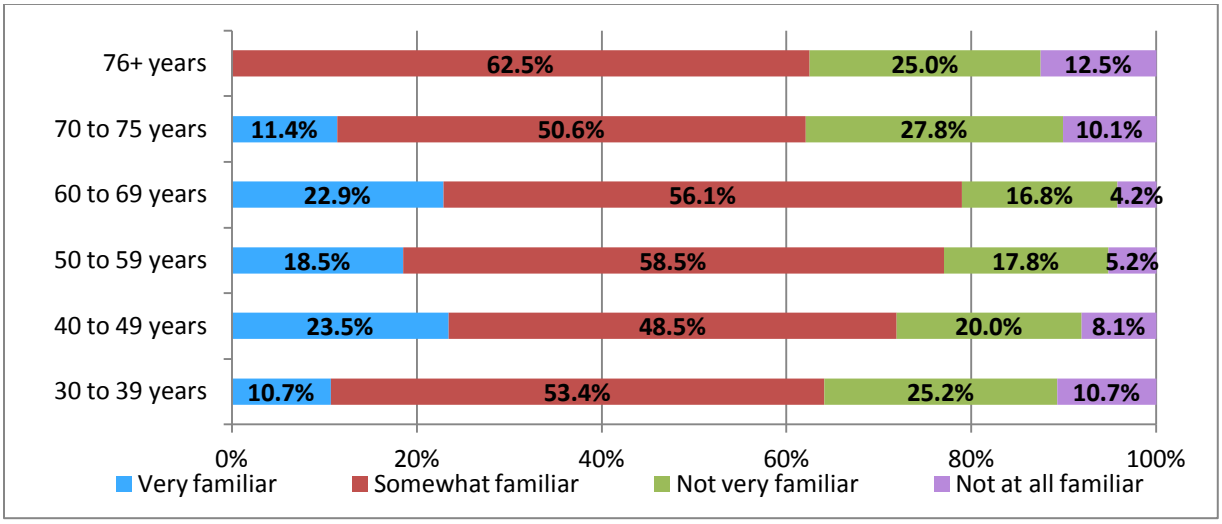


**Chart represents total sample.*

Chart 5.18
Practicing Physician Likelihood to Participate in an ACO by Age Range

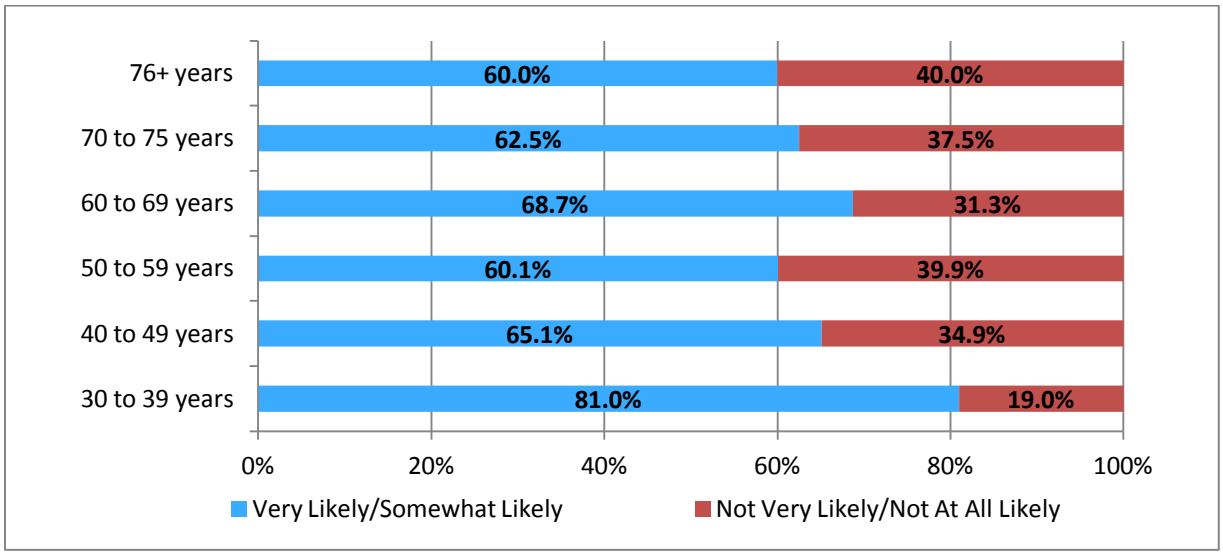


**Chart represents physicians who indicated they were very familiar or somewhat familiar with ACOs.*

We also examined, via chi-square analysis, whether or not familiarity with and likelihood to participate in ACOs varied by specialty. Findings outlined in Chart 5.19 demonstrate that primary care physicians are more familiar with ACOs than pediatricians or specialists (p=0.008).

Chart 5.19
Practicing Physician Familiarity with ACOs by Specialty Cluster

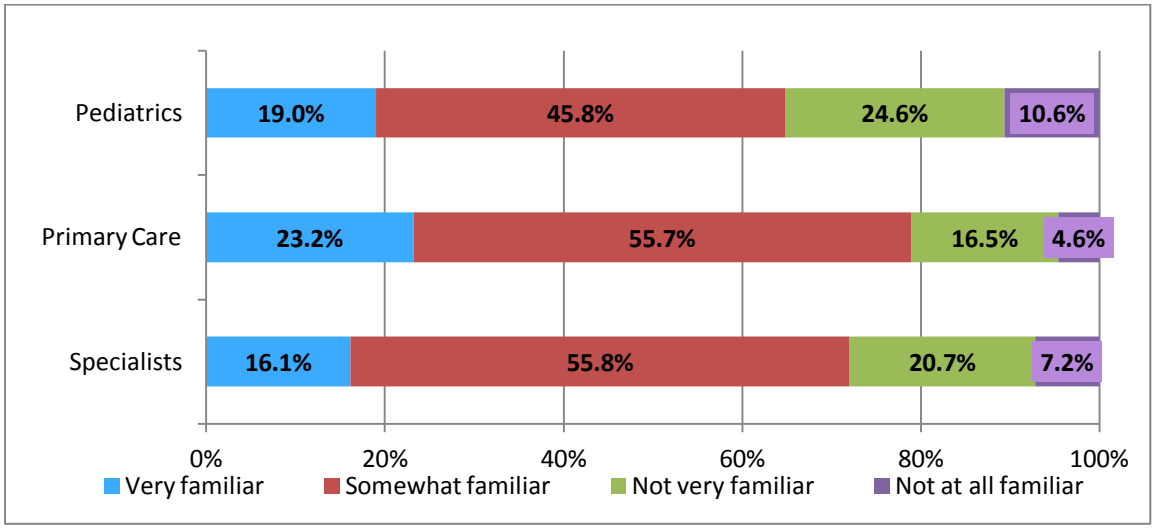


**Chart represents total sample.*

The likelihood of participating in a voluntary ACO program also varied significantly (p=0.007) by specialty group with pediatricians and primary care physicians being more likely to participate as compared to specialists, as can be seen in Chart 5.20 below.

Chart 5.20
Practicing Physician Likelihood to Participate in an ACO by Specialty Cluster

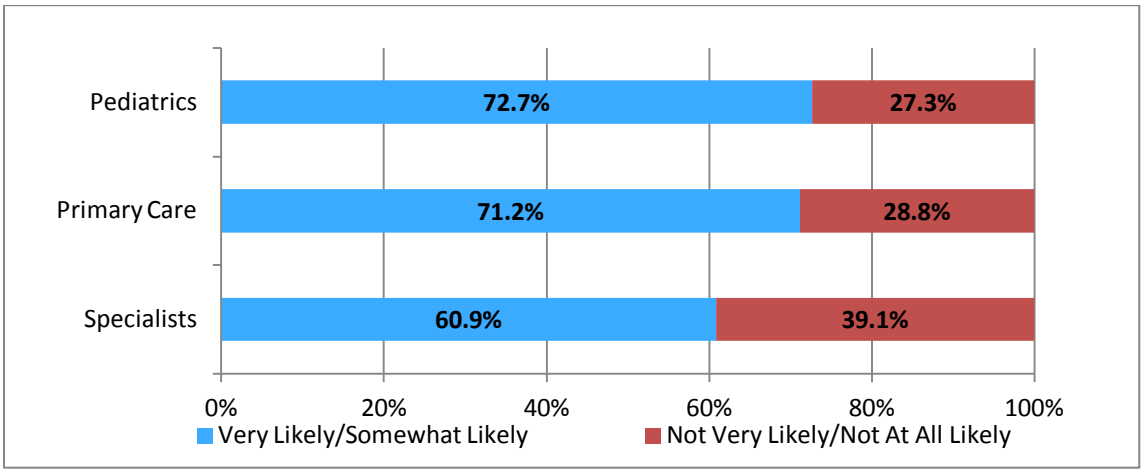


**Chart represents physicians who indicated they were very familiar or somewhat familiar with ACOs.*

Physician familiarity with (p=0.017) and likelihood of participating (p=0.003) in a voluntary ACO program also varied significantly by main practice with physicians employed in a multispecialty practice (73.5%) or other practice (78.3%) being slightly more likely to participate as compared to physicians employed in a single specialty practice (60.2%).

Chart 5.21
Practicing Physician Familiarity with ACO by Main Practice

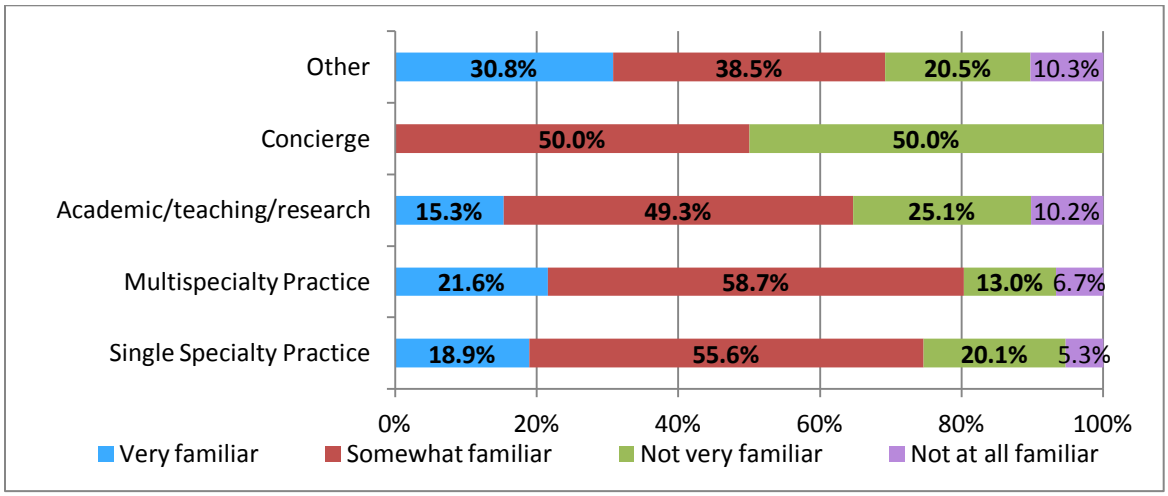


**Chart represents total sample.*

Chart 5.22
Practicing Physician Likelihood to Participate in an ACO by Main Practice

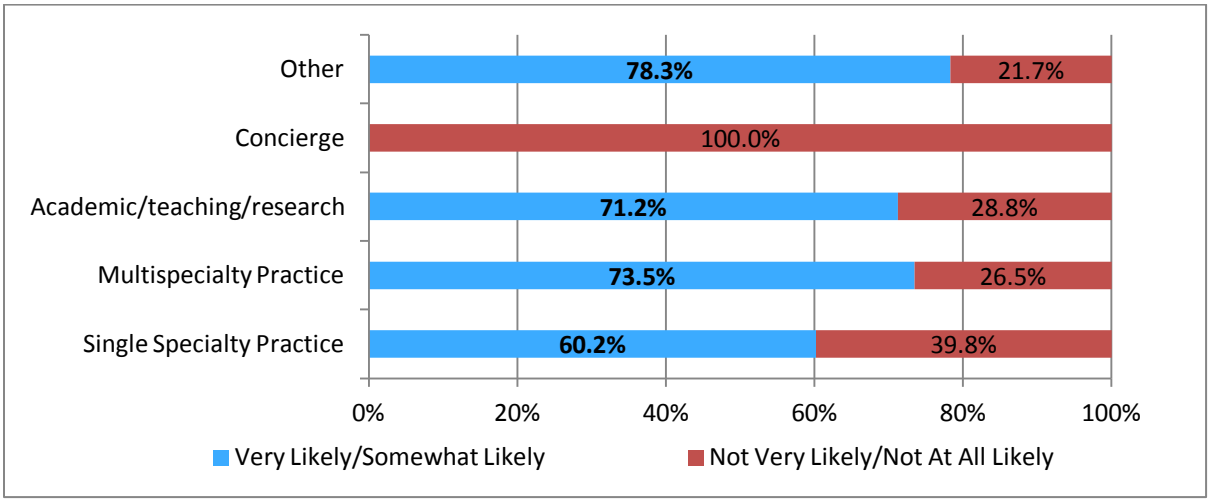


**Chart represents physicians who indicated they were very familiar or somewhat familiar with ACOs.*

Physician familiarity with (p=0.028) and likelihood of participating in (p=0.000) a voluntary ACO program varied significantly by physician practice size. Physicians in large practices of more than 250 physicians (84.3%) were more likely to participate than physicians in solo practices (51.3%). Physicians working for practice sizes of between 11 and 25 physicians (68.9%) and for practices with between 26 and 100 physicians (70.8%) were more likely to participate in a voluntary ACO program, as well.

Chart 5.23
Practicing Physician Familiarity with ACO by Practice Size

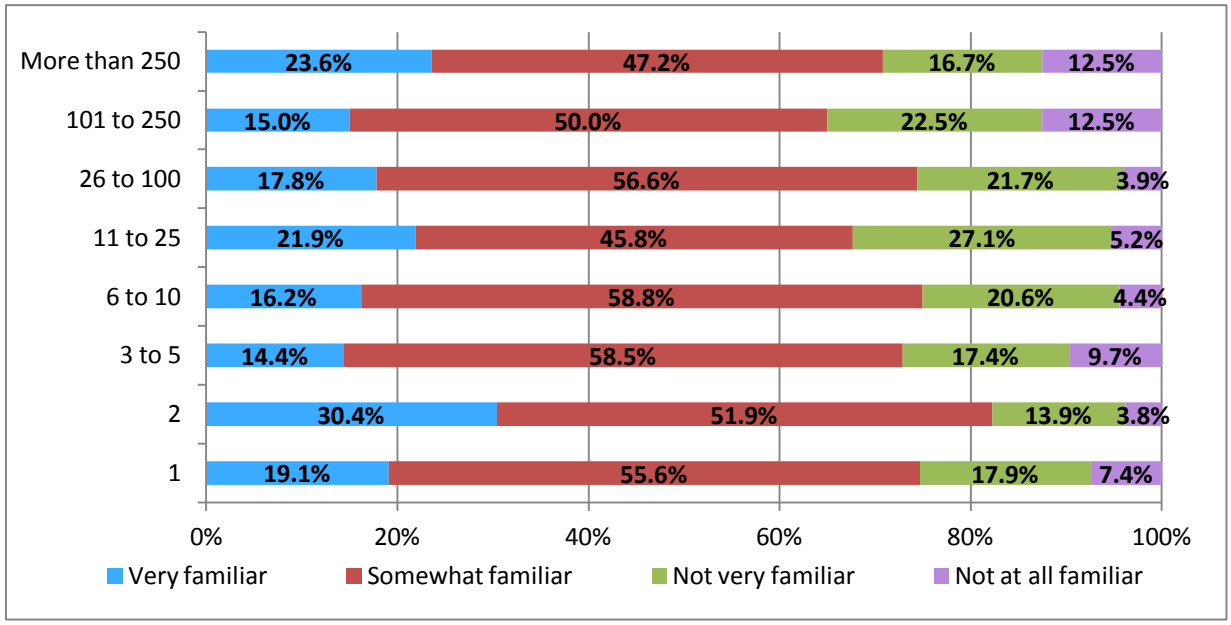


**Chart represents total sample.*

Chart 5.24
Practicing Physician Likelihood to Participate in an ACO by Practice Size

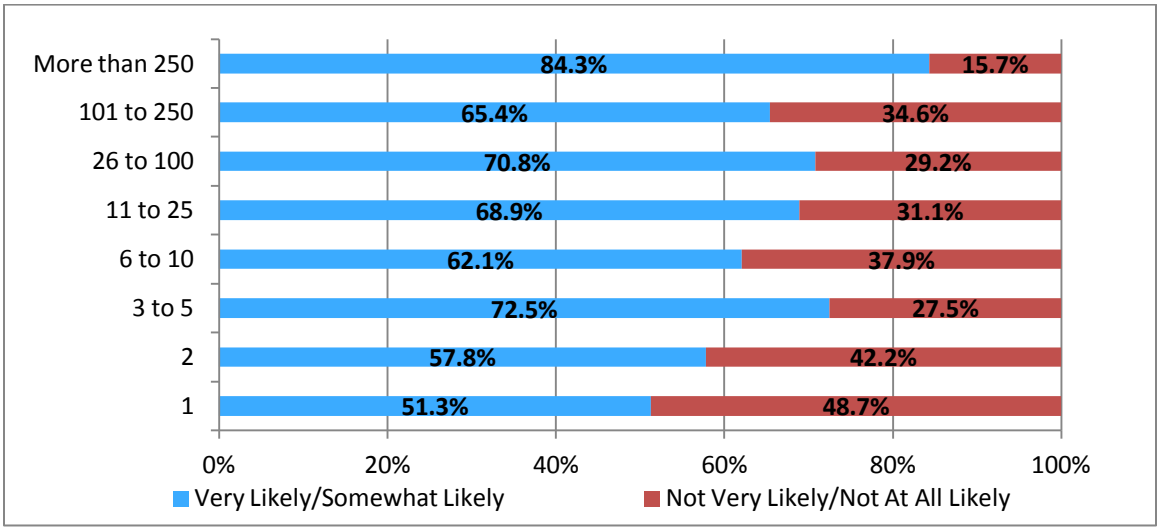


**Chart represents physicians who indicated they were very familiar or somewhat familiar with ACOs.*

Physician familiarity with (p=0.002) and likelihood of participating in (p=0.000) a voluntary ACO program varied significantly by physician satisfaction with the current practice environment. Well over half of physicians who were either very satisfied (72%) or satisfied (80.6%) or felt neutral (67.4%) regarding practicing medicine in the state of Massachusetts were likely to participate in a voluntary ACO program. Less than half of physicians who were very dissatisfied (38.9%) with practicing medicine in Massachusetts were likely to participate in a voluntary ACO program.

Chart 5.25
Practicing Physician Familiarity with ACOs by Satisfaction with Current Practice Environment

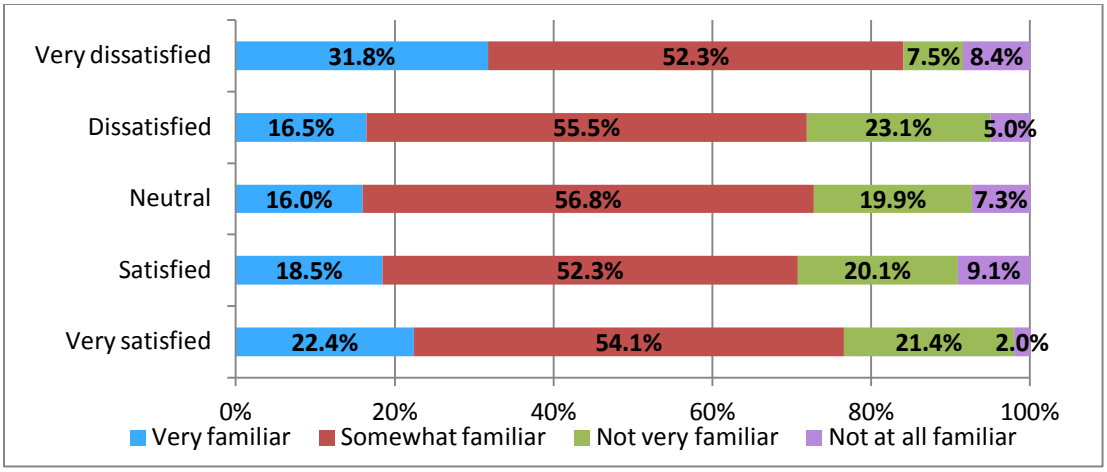


**Chart represents total sample.*

Chart 5.26
Practicing Physician Likelihood to Participate in an ACO by Satisfaction with Current Practice Environment

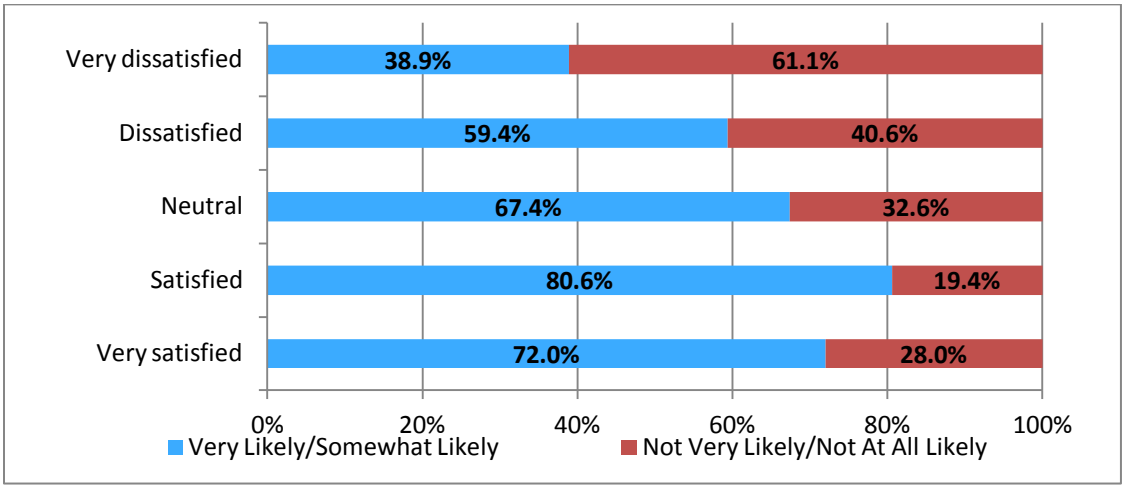


**Chart represents physicians who indicated they were very familiar or somewhat familiar with ACOs.*

Physician familiarity with and likelihood of participating in a voluntary ACO program differed slightly by competitiveness of physician compensation. Results were statistically significantly at p=0.020 and found that the majority of physicians who felt they were compensated either very competitively (38.6%) were more likely to be very familiar with ACOs than other physicians who felt differently about their compensation. Less than half of physicians who felt they received very uncompetitive compensation (46.2%) were likely to participate in an ACO (p=0.000).

Chart 5.27
Practicing Physician Familiarity with ACOs, by Compensation

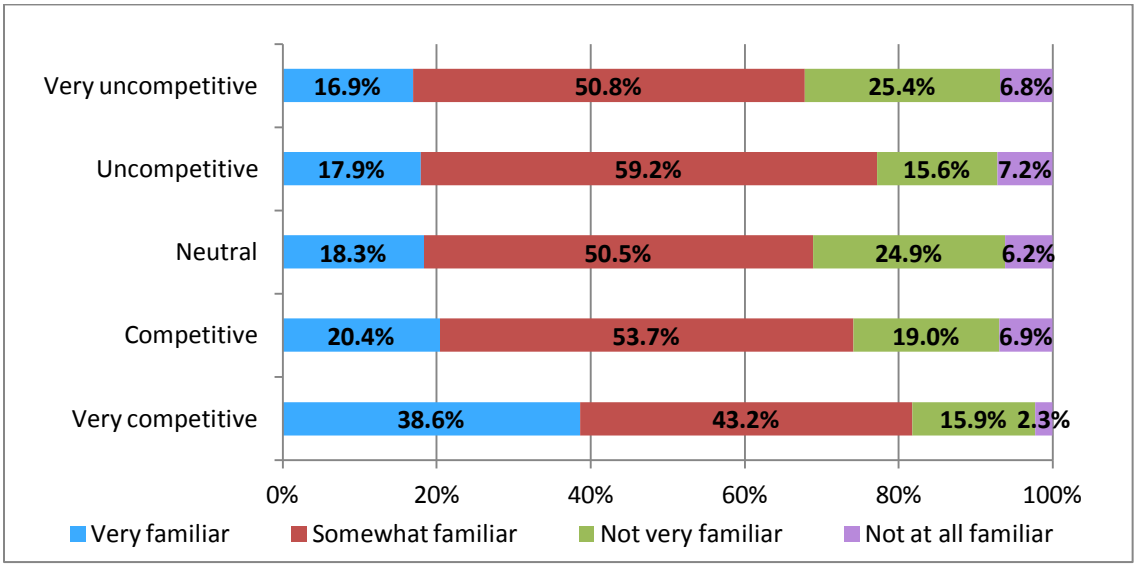


**Chart represents total sample.*

Chart 5.28
Practicing Physician Likelihood to Participate in an ACO by Compensation

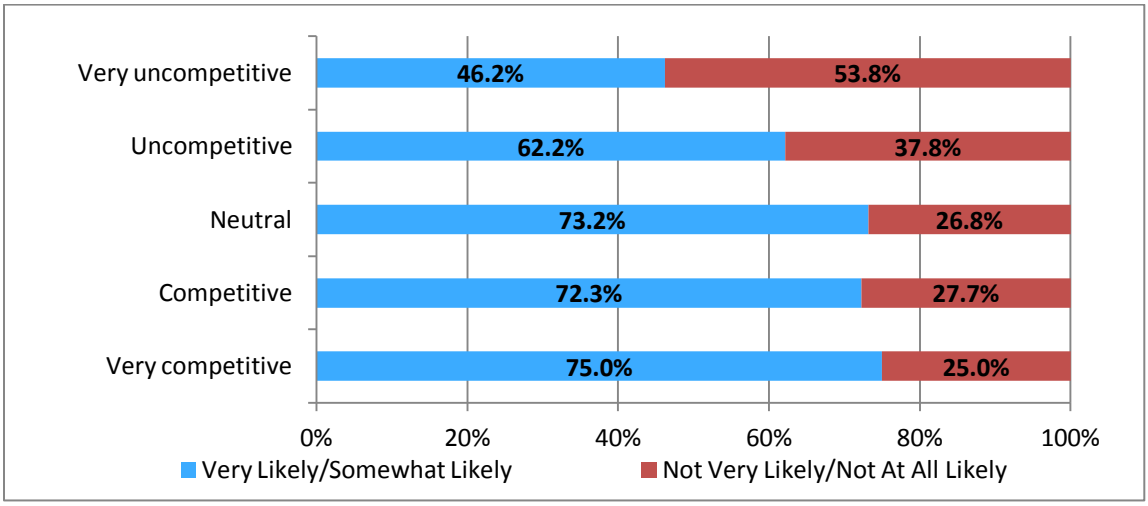


**Chart represents physicians who indicated they were very familiar or somewhat familiar with ACOs.*

As Charts 5.29 and Chart 5.30 demonstrate, physician familiarity with ACOs and likelihood of participating in a voluntary ACO program varies by whether the physician's practice is electronically connected to any hospital. Results for these questions are statistically significant at p=0.012 and indicate that 75.5% of physicians who currently are electronically connected to any hospital, 66.7% of physicians who are not currently electronically connected to any hospital but plan to be within 12 months, and 62.7% of physicians who are not connected electronically to any hospital are familiar with ACOs. Physicians who are currently electronically connected to any hospital (68.7%) are more likely to participate in a voluntary ACO than physicians who are not connected to any hospital electronically (48%) or physicians who are currently not connected to any hospital electronically, but plan to be connected within 12 months (44.4%) (p=0.000).

Chart 5.29
Familiarity with ACOs, by Being Electronically Connected to Any Hospital

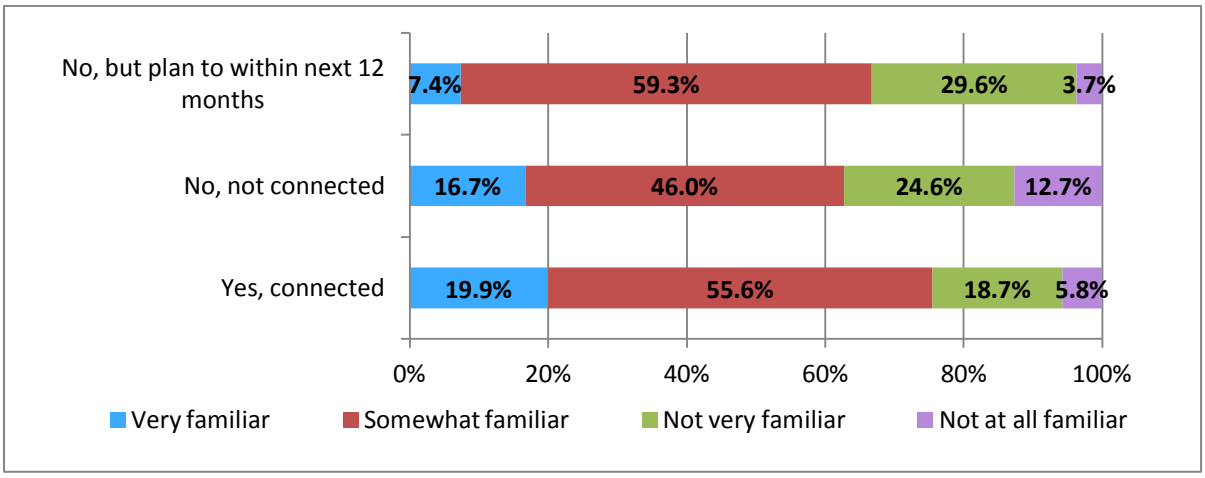


**Chart represents total sample.*

Chart 5.30
Likelihood to Participate in a Voluntary ACO, by Being Electronically Connected to Any Hospital

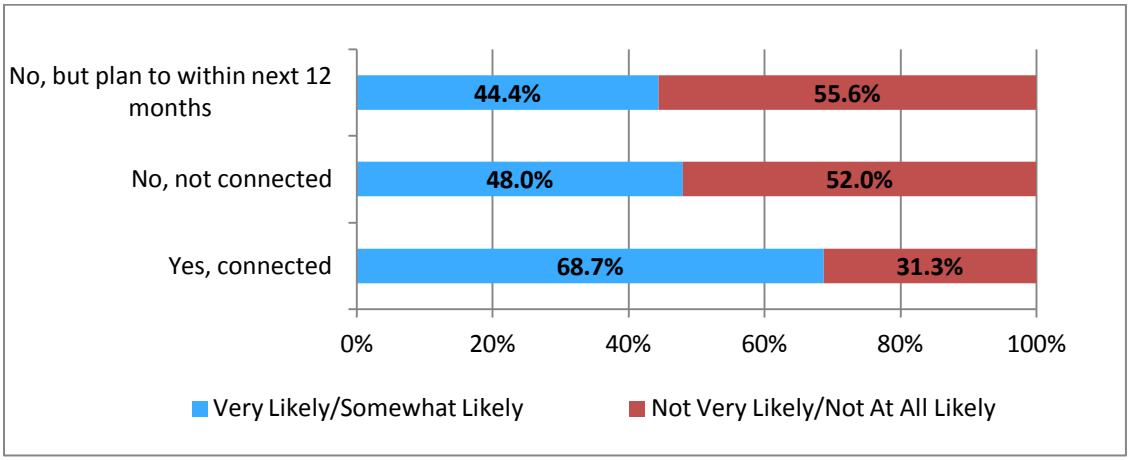


**Chart represents physicians who indicated they were very familiar or somewhat familiar with ACOs.*

Section 6: Conclusions and Recommendations

6.1 Conclusions

For the past 11 years the Massachusetts Medical Society (MMS) has conducted an annual Physician Workforce Study to evaluate labor market conditions and document physician supply trends across the Commonwealth. Results from the 2012 study confirm that there are still significant shortages across several specialties in Massachusetts: dermatology, general surgery, psychiatry, urology, neurosurgery, internal medicine and family medicine.

While physician labor markets continued to be tight in 2012, fortunately, fewer physicians report seeing an increase in recruiting time for physicians in their practice specialty. Moreover, in 2012, fewer physicians report seeing an inadequate pool of applicants for physician positions in their specialty. Finally, the 2012 study finds that the percentage of physicians having difficulty filling vacant positions in their specialty has declined slightly from 2011 to 2012.

In recent years, novel developments in payment reform, such as global payments and accountable care organizations, have changed the payment landscape in health care. While more than half of physicians (65.1%) surveyed consider themselves familiar with global payments, fewer than half (48.7%) are likely to participate in a voluntary global payment system. Similarly, approximately 73.5% of physicians surveyed consider themselves familiar with ACOs, but only 59.9% of physicians are likely to participate in an ACO that is voluntary.

These survey results are stratified by place of employment and size of employer. For example, self-employed physicians (43.4%) are less likely to participate in voluntary global payment systems in comparison to employed physicians (61.6%). Moreover, physicians working in large practices of more than 250 physicians (84.3%) significantly more likely to participate in a voluntary ACO in comparison to physicians working in solo physician offices (51.3%). As the payment landscape continues to change physicians will have to adapt to working in a system that confers accountability for both the costs and outcomes of medical care in an organized way. Fragmentation of medical care among primary care physicians and specialists, waste and duplication of services in the health care system, and low quality medical care will likely be addressed by these changes.

6.2 Recommendations

Massachusetts is a model for health reform for the nation. While access to care has improved, universal health insurance coverage in Massachusetts can only be sustained if there is a strong physician workforce. To accomplish this, a number of changes to the health environment must take place.

- Health care stakeholders must continue to work collaboratively on key issues in order to secure a strong physician workforce that will deliver coordinated, high-quality, and cost-effective care.
- Health care stakeholders must advocate for physician workforce policies that secure a fair and equitable payment system, which includes support for the proper technology and resources to maintain the right infrastructure, access to essential quality, utilization

and cost data and support for appropriate flexibility as the system evolves. If physicians believe that practice viability is unsustainable under a new payment system, Massachusetts may experience further recruitment and retention problems.

- Administrative simplification continues to be essential to ease the burden on physician hours and bend the curve on the rising cost of overhead.
- Medical malpractice reform must be addressed as new payment models are being implemented.

Appendix A: Sample Characteristics

Specialty	N	Percent
Anesthesiology	41	3.7%
Cardiology	49	4.5%
Dermatology	39	3.6%
Emergency Medicine	45	4.1%
Family Medicine	107	9.8%
Gastroenterology	25	2.3%
General Surgery	32	2.9%
Internal Medicine	269	24.6%
Neurology	28	2.6%
Neurosurgery	10	0.9%
Obstetrics and Gynecology	70	6.4%
Oncology	21	1.9%
Orthopedics	28	2.6%
Pediatrics	147	13.4%
Psychiatry	74	6.8%
Radiology	71	6.5%
Urology	25	2.3%
Vascular Surgery	14	1.3%
Total	1095	100.0%
Gender		
Male	660	61.9%
Female	407	38.1%
Total	**1067**	**100.0%**
Age Group		
<40	134	12.3%
40-49 Years	263	24.1%
50-59 Years	333	30.5%
60>	362	33.1%
Total	**1092**	**100.0%**
Geographic Location		
Boston	767	70.0%
New Bedford/Fall River/Barnstable	70	6.4%
Pittsfield	30	2.7%
Springfield	114	10.4%
Worcester	111	10.1%
Total	**1092**	**100.0%**