

The Massachusetts Medical Society 2013 Physician Practice Environment Report

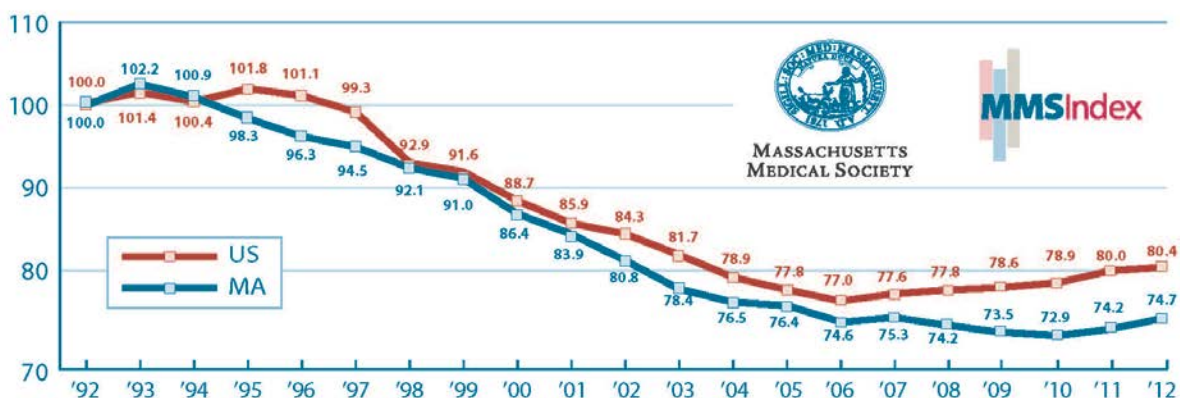
The Massachusetts Medical Society Physician Practice Environment Index, a statistical indicator of the factors that affect the delivery of patient care from physician practices, increased 0.6 percent in Massachusetts and 0.5 percent in the United States in 2012.

Both the Massachusetts Index and the United States Index measure nine factors that impact the delivery of patient care in Massachusetts and in the United States. The indicators are: 1) applications to medical schools, 2) percent of physicians 55 years of age and over, 3) median physician income levels, 4) ratio of median housing prices to median physician income, 5) cost of maintaining a physician's practice, 6) mean number of hours spent on patient care activities, 7) number of visits per emergency department, 8) change in average professional liability ("malpractice") insurance premium rates, and 9) annual number of advertisements for physician vacancies in the *New England Journal of Medicine*.

Continued positive growth in both Indices is suggestive of a subtly improving physician practice environment overall. In each of the past six years, the United States Index has increased, a trend that reflects a stronger practice environment. While this conclusion is best supported nationally, the Massachusetts Index has also shown modest improvement over the past two years.

The relative historical performance of the two Indices since 1992 are shown in Figure 1 below.

Figure 1.



Putting the 2012 Data in Context: A Historical Perspective

Despite modest improvements in the health care environment in both Massachusetts and the United States over the past several years, in absolute statistical terms, these Index values remain well below their 1992-1994 levels. Since 1993 in Massachusetts the Massachusetts Index has declined by over 25 percent; similarly, since 1995 in the United States, the United States Index has declined by slightly more than 20 percent.

Much of this text compares the two periods from 2004-2009 and 2010-2012. The year 2004 was the start of an economic recession in the United States. In as much as 2004 represents the most recent peak in aggregate economic activity, it was chosen as the logical departure point in this analysis. This recession continued through 2009. In 2010 the economy began to show signs of economic improvement, contrasting the period 2010-2012 from 2004-2009.

While the specific rates of change in the two Indices over the past year are noteworthy, it must be noted that these changes were due to the effects of only a few of the index components.

The weighted rates of change in the three key Index variables are shown in Table 1.

Table 1.
Key Factors Affecting the Changes in the Massachusetts
and United States Indices in 2012

Overall Weighted Rate of Change in the Index	<i>Massachusetts Index: +0.6%</i>	<i>United States Index: +0.5%</i>
Increases in Variables that Most Significantly Affected the Indices		
Physician Income	+0.6%	+0.5%
Applicants to Medical School	+0.4%	+0.3%
Decreases in Variables that Most Significantly Affected the Indices		
Cost of Maintaining a Practice	-0.4%	-0.4%

Each of these changes merits a brief comment.

Physician Income: Over the past three years (2010-2012) there has been an acceleration in the rate of increase in physician incomes, in comparison to the period from 2004 through 2009 in the United States. Data on United States physician incomes is pulled directly from readily available MGMA data¹, and New England estimates of physician income are estimated from this national data, with the annual rates of change assumed to approximate national changes. Therefore, it is estimated that in New England, the rate of increase in physician incomes from 2010 through 2012 has accelerated faster than in the period from 2004 through 2009.

To that point, in the United States, the average annual rate of change for physician income amongst primary care physicians increased by only 3.7% between 2004 and 2009, whereas it has increased by

¹ Medical Group Management Association (MGMA). Physician Compensation and Production Survey, 2012.

5.0% between 2010 and 2012. Similarly, in the United States, the average annual rate of change for physician income amongst specialists increased by 3.4% between 2004 and 2009, as compared to an increase of 6.2% between 2010 and 2012.²

Based off of national data published in the American Medical Association's publications *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics* from 1999 through 2004, the Howell Group estimated in 2005 that the average income amongst physicians in the New England region is 91% of the national average. Hence, the Howell Group estimated that the average annual rate of change for physician income in the New England region has increased accordingly in the period between 2010 to 2012, in comparison to the period between 2004 and 2009.

Applicants to Medical Schools: The recent positive changes in the need for health care are also evident in the applications to United States and Massachusetts medical schools. Again the relevant figures are shown in Table 2 below:

Table 2.
Average Annual Rate Changes in the Applications
To United States and Massachusetts Medical Schools

	2004-2009	2010-2012
United States Medical Schools	+7.4%	+4.8%
Massachusetts Medical Schools	+2.7%	+3.1%

The differential increase in United States applications during the 2004-2009 may be explained in part by the fact that 2004-2009 was a period in which existing medical schools expanded their enrollments and new ones came into existence. In 2005, in order to combat impending physician workforce shortages, the Association of American Medical Colleges (AAMC) Center for Workforce Studies 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 incoming classes, the AAMC has granted full, provisional, or preliminary accreditation to 12 new medical schools since 2002.³ Simultaneously, the number of first-time medical school applicants nationally grew, reaching a new high in 2012, with four percent of the entering class of 2012 attending one of the 11 new medical schools in the US.⁴ In fact, total medical school enrollment has increased by 16.6 percent over 2002 levels as of the 2011-2012 academic year, and is expected to increase to 29.6 percent by 2016-2017.¹

² External research confirms this data. For example, according to survey data from Merritt Hawkins, there was a 6 percent increase in family physician salaries during the past year, taking the average from \$178,000 a year in 2011 to \$189,000 a year in 2012 in the United States. Source: Arvantes, J. (2012). Family Physician Salaries Rising, Says Survey: FP Salaries Start To Reflect Supply and Demand, Market Forces. Accessed on April 11, 2013 at <http://www.aafp.org/online/en/home/publications/news/news-now/practice-professional-issues/20120717merrithawkins.html>

³ Association of American Medical Colleges. "Results of the 2011 Medical School Enrollment Survey", May 2012. Available online at: <https://www.aamc.org/download/281126/data/enrollment2012.pdf>

⁴ Association of American Medical Colleges (2012). *Medical School Enrollment Continues to Climb with New Diversity Gains: New Residency Positions Needed for M.D.s to Complete Training*. Available online at: <https://www.aamc.org/newsroom/newsreleases/310002/121023.html>

Cost of Maintaining a Practice: It has been established that business operating costs in Massachusetts are higher than most of those in the rest of the country. This generalization holds true for physician practices, as the cost of operating a practice is significantly higher for physicians in Massachusetts than physicians in other states within the United States. The data for the period 2004 through 2009 and 2010 through 2012 are shown in Table 3. While Table 3 may appear to indicate that the rate of change in Massachusetts is lower than the rate of change in the United States, the baseline cost data in Massachusetts is considerably higher than the baseline cost data in the United States. However, in the period 2010 through 2012, Massachusetts costs accelerated at a slower rate than those costs in the United States.

Table 3.
Average Annual Rates of Change
In the Physicians' Cost of Doing Business

	2004-2009 ⁵	2010-2012
<i>United States</i>	+2.5%	+3.0%
<i>Massachusetts</i>	+3.3%	+1.5%

The relatively stronger rate of increase in the national rate, as compared to the Massachusetts rate, during the period 2010 through 2012 seems to be a departure from past trends. An analysis of the underlying data suggests that in large part this may be attributed to a continued softness in rental rates for Class B office space in Massachusetts. Class B office space is defined as office space in the suburbs of a large city, often in a shopping park or in a shared office building. The continued softness of Class B office space in Massachusetts may be reversed, given that the surplus of Class B office space that was built in the 1970s may soon be eliminated as a result of the increased demand for physician services.

Concluding Comments

Looking ahead, physician income and number of applicants to medical school can be expected to continue to positively affect the indices. The increase in demand for physician services as a result of the aging population and expanding technology has driven these two factors upward. At the same time, the cost of maintaining a practice may begin to change, as rental rates for office space and wage rates increase, reflecting the broader positive growth momentum in the national economy.

While the Massachusetts and United States Indices remain considerably below the levels of the early 1990s, the slight improvement noted in the past several years is an encouraging sign. It should remain a priority, however, to continue to focus supporting and improving the physician practice environment in both Massachusetts and the United States.

⁵ In as much as 2004 represents the most recent peak in aggregate economic activity, it was chosen as the logical departure point in this analysis.

Data Sources

Massachusetts Index

1. Number of Applications to Massachusetts Medical Schools

Total number of initial applications to Massachusetts' four medical schools: Boston University, Harvard University, Tufts University, and the University of Massachusetts

Source: Association of American Medical Colleges.

2. Percentage of Non-Federal Physicians 55 Years of Age and Over

Source: *Physician Characteristics and Distribution in the US, 1993 to 2012*, American Medical Association. Residents and fellows are not included in the total number of physicians.

3. New England Median Physician Income

Source: *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1993 to 2004*, American Medical Association. Estimates made by The Howell Group for the years 2005 through 2012 were based on data from Medical Group Management Association's *Physician Compensation and Production Survey* and with New England region estimates drawn from the 1999 through 2004 editions of the American Medical Association's publications *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics*.

4. Ratio of Median Housing Prices to Median Physician Income

Source: Office of Federal Housing Enterprise Oversight, Department of Housing and Urban Development; Standard and Poor's/ Case-Shiller Home Price Indices for 2010 to 2012 rates of change. *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1993 to 2003*, American Medical Association.

5. Cost of Maintaining a Physician's Practice

A composite index composed of three components:

- A composite of physician office hourly wages for accounting clerks, registered nurses, and secretaries from 1994 to 2012.

Source: U.S. Bureau of Labor Statistics' annual *National Compensation Survey, 1992 to 2012*.

- New England mean medical supply expenses per self-employed physician

Source: *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1995 to 2003*, American Medical Association. This data is updated annually utilizing the Bureau of Labor Statistics Producer Price Index rates of change for Medical Supplies Manufacturers.

- Annual rates of change in average cost per square foot for class B office space in urban area.

Source: Grubb & Ellis Research Department national rent rates (Class B) 1994 to 2011. In 2012, Newmark Grubb Knight Frank Research Department national rent rates (Class B).

6. New England Physician Mean Hours per Week Spent in Patient Care Activities

Source: *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1993 to 2003*, American Medical Association.

7. Annual Number of Visits per Emergency Department

Source: *AHA Hospital Statistics,™ 2013*, American Hospital Association, for the number of outpatient visits. Number of emergency departments in Massachusetts was reported by the Massachusetts Hospital Association.

8. Change in Average Professional Liability (“Malpractice”) Insurance Premiums for Physicians

Source: ProMutual Insurance Company and *2012 Rate Survey*, Medical Liability Monitor.

9. Annual Number of Advertisements for physician vacancies in Massachusetts Listed in the *New England Journal of Medicine*

Data for this variable includes both print and web based advertising for physician vacancies in Massachusetts. A print and web ad for one position is only counted once.

Source: *New England Journal of Medicine*.

United States Index

1. Number of Applications to U.S. Medical Schools

Total number of initial applications submitted annually to medical schools in the United States

Source: Association of American Medical Colleges.

2. Percentage of Non-Federal Physicians 55 Years of Age and Over

Source: *Physician Characteristics and Distribution in the US, 1993 to 2012*, American Medical Association. Residents and fellows are not included in the total number of physicians.

3. U.S. Median Physician Income

Source: *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1993 to 2004*, American Medical Association and the Medical Group Management Association’s *Physician Compensation and Production Survey, 2005-2008 and 2010-2012*. Estimates made by the Howell Group for the year 2009 were based on data from the Medical Group Management Association’s *Physician Compensation and Production Survey*.

4. Ratio of U.S. Median Housing Prices to U.S. Median Physician Income

Source: Office of Federal Housing Enterprise Oversight, Department of Housing and Urban Development; Standard and Poor’s/ Case-Shiller Home Price Indices for 2009 to 2012 rates of change. *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1993 to 2003*, American Medical Association.

5. U.S. Cost of Maintaining a Physician’s Practice

A composite index composed of three components:

- A composite of physician office hourly wages for accounting clerks, registered nurses, and secretaries from 1994 to 2012.

Source: U.S. Bureau of Labor Statistics’ annual *National Compensation Survey, 1992 to 2012*.

- Mean medical supply expenses per self-employed physician.

Source: *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1995 to 2003*, American Medical Association. This data is updated annually utilizing the Bureau of Labor Statistics Producer Price Index rates of change for Medical Supplies Manufacturers.

- Annual rates of change in average cost per square foot for class B office space in large metropolitan areas.

Source: Grubb & Ellis Research Department national rent rates (Class B) 1994 to 2011. In 2012, Newmark Grubb Knight Frank Research Department national rent rates (Class B).

6. U.S. Physician Mean Hours per Week Spent in Patient Care Activities

Source: *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1993 to 2003*, American Medical Association. Estimates made from The Howell Group, 2002 through 2012.

7. Annual Number of Visits per Emergency Department

Source: *AHA Hospital Statistics™, 2012*, American Hospital Association.

8. Rate of Change in Mean Professional Liability Premiums Paid by Self-Employed Physicians in the United States

Source: *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1993 to 2002*, American Medical Association; *National Physician Survey on Professional Liability*, March 2003, American Medical Association; *2012 Rate Survey*, Medical Liability Monitor.

9. Annual Number of Advertisements for physician vacancies in the United States Listed in the *New England Journal of Medicine*

Data for this variable includes both print and web based advertising for physician vacancies in the United States of America. A print and web ad for one position is only counted once.

Source: *New England Journal of Medicine*

MMS Practice Environment Index
Massachusetts Underlying Data: 2012

	MA Med School Applications	MA. Physicians % Over 55	New Eng. Median Physician Income (\$000)	Ratio Housing Price to Median Physician Income	Mass. Physician Cost of Doing Business Index	New Eng. Mean Hrs. Patient Care Activities	MA Visits per Emergency Department	MA Chg. in Avg. Malprac. Rates	MA NEJM Ad Counts
1992	18,387	30.5%	\$140.0	1.1370	---	49.5	34,597	100.0	---
1993	21,403	30.7%	\$140.0	1.1509	---	47.7	32,691	100.0	---
1994	25,854	30.8%	\$135.0	1.2337	100.0	48.5	32,882	107.5	---
1995	28,737	31.1%	\$140.0	1.2141	118.5	47.2	33,142	117.6	---
1996	28,508	32.1%	\$145.0	1.2264	125.1	51.3	31,865	117.6	1,537
1997	26,111	32.5%	\$150.0	1.2633	130.8	52.1	33,235	117.6	1,238
1998	24,159	32.3%	\$150.0	1.3888	138.6	50.4	32,126	124.7	1,403
1999	26,736	32.8%	<i>\$152.0</i>	<i>1.5473</i>	145.4	48.9	35,404	124.7	1,465
2000	25,347	33.8%	\$159.0	1.7222	161.2	49.1	36,700	135.9	2,040
2001	23,479	34.4%	\$167.0	1.8626	157.1	49.4	36,727	154.9	2,626
2002	21,313	35.5%	\$175.0	2.0103	158.8	49.6	38,954	174.3	2,647
2003	22,737	36.9%	\$185.2	2.0022	162.0	49.8	40,133	209.3	2,720
2004	23,327	37.4%	\$186.8	2.2669	165.0	50.0	39,383	232.3	2,184
2005	24,290	37.9%	<i>\$196.7</i>	<i>2.3072</i>	171.5	50.2	39,263	232.3	2,520
2006	25,318	39.0%	<i>\$200.0</i>	<i>2.2916</i>	177.2	50.4	43,003	243.9	3,293
2007	27,492	40.2%	\$207.8	2.1350	182.9	50.6	43,660	238.3	3,319
2008	27,117	41.8%	<i>\$211.8</i>	<i>1.9753</i>	189.1	50.8	43,328	250.9	3,941
2009	26,483	42.5%	<i>\$216.9</i>	<i>1.8652</i>	191.9	51.0	43,285	261.0	2,812
2010	27,326	43.8%	<i>\$224.0</i>	<i>1.8136</i>	195.0	51.2	43,796	270.1	3,384
2011	27,371	43.7%	<i>\$237.9</i>	<i>1.6871</i>	196.1	51.4	42,956	270.1	2,705
2012	29,033	44.3%	<i>\$247.2</i>	<i>1.6545</i>	200.7	51.6	42,827	270.1	2,601

Estimates in italics

**MMS Practice Environment Index
United States Underlying Data: 2012**

	U.S. Med School Applications	U.S. Physicians % 55 and Over	U.S. Median Physician Income (Thous. \$)	U.S. Ratio Housing Price to Median Physician Income	U.S. Cost of Maintaining Physician's Practice Index	U.S. Mean Hrs. Patient Care Activities	U.S. Visits per Emergency Department	U.S. Chg. in Avg. Malprac. Rates	U.S. NEJM Ad Counts
1992	405,720	34.3%	\$150.0	0.9760	---	52.9	19,785	100.0	---
1993	482,788	34.8%	\$156.0	0.9173	---	52.9	20,325	104.3	---
1994	561,593	34.7%	\$150.0	0.9467	100	52.1	20,752	109.2	---
1995	595,975	35.0%	\$160.0	0.8925	98.4	51.3	22,688	108.5	---
1996	566,122	36.0%	\$166.0	0.9343	98.7	53.4	23,168	102.5	11,597
1997	512,877	36.2%	\$164.0	1.0030	102.8	53.2	21,738	103.2	17,870
1998	481,330	35.8%	\$160.0	1.0838	115.3	51.7	23,452	121.5	22,595
1999	454,364	36.7%	<i>\$167.0</i>	<i>1.1030</i>	119.4	51.6	24,247	124.2	22,697
2000	433,979	36.9%	\$175.0	1.1366	128.7	52.2	25,318	135.4	25,560
2001	403,609	37.5%	\$183.0	1.1776	130.2	52.8	26,195	154.4	24,661
2002	373,686	38.6%	\$192.0	1.2042	128.5	53.2	27,236	168.3	21,023
2003	392,118	39.5%	\$204.3	1.1914	131.7	53.7	27,230	208.7	20,525
2004	411,151	39.9%	\$206.3	1.2700	135.4	54.2	28,032	242.1	21,217
2005	448,820	40.6%	\$218.3	1.3444	141.8	54.7	28,588	260.0	21,396
2006	483,148	41.6%	\$222.4	1.4217	145.5	55.2	30,197	260.0	22,783
2007	546,817	42.9%	\$232.0	1.3751	150.3	55.7	30,699	261.0	19,595
2008	558,053	44.3%	\$236.8	1.2529	155.1	56.2	31,012	249.8	23,384
2009	562,694	45.4%	\$233.0	1.1532	152.3	56.7	32,969	249.8	15,720
2010	580,304	46.4%	\$251.8	1.0720	155.8	57.2	33,185	249.8	13,878
2011	609,312	47.6%	\$258.8	1.0056	158.8	57.7	34,096	249.8	11,324
2012	636,309	48.2%	\$280.4	0.9560	165.2	58.2	34,424	245.6	9,516

Estimates in italics

For detailed information on the Index sources and analytical techniques used in calculating the Massachusetts Index and United States Index, please contact the Massachusetts Medical Society Health Policy/Health Systems Department at (800)322-2303.