



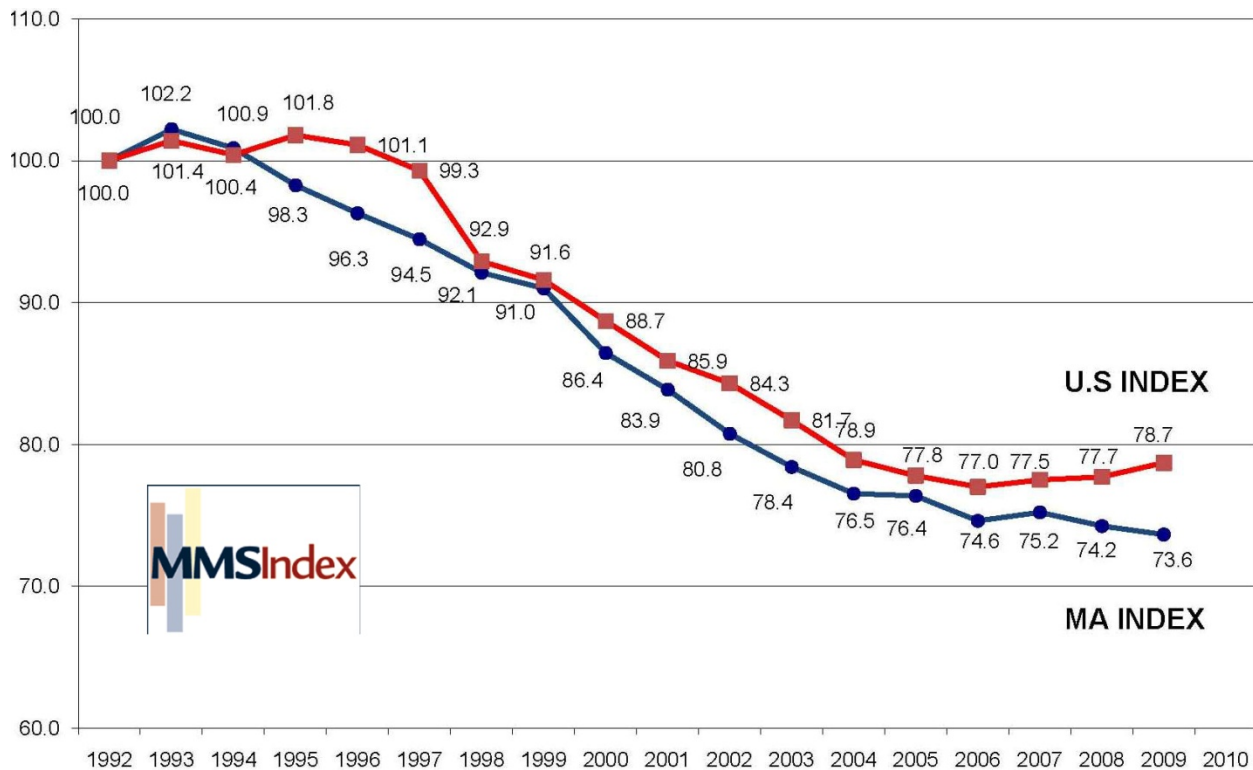
# MASSACHUSETTS MEDICAL SOCIETY

## The Massachusetts Medical Society 2009 Physician Practice Environment Report

The Massachusetts Physician Practice Environment Index, a statistical measure of the factors that affect the delivery of patient care from physician practices, declined 0.8 percent in 2009. It was the index's 16<sup>th</sup> decline in the last 18 years. During the same period, the statistically comparable index of physician practices nationwide rose by 1.3 percent. (See Table 1.)

The decline in the Massachusetts Index provides strong empirical evidence that the physician practice environment continues to worsen. Since 1992, the Massachusetts Physician Practice Environment Index has declined by 26.4 percent, which is significantly more than the 21.3 percent decline in the comparable national index.

The Massachusetts Medical Society Physician Practice Environment Index measures 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 over 55 years of age, 3) median physician income levels, 4) ratio of median housing prices to median physician income, 5) physician cost of doing business, 6) mean number of hours spent on patient care activities, 7) number of visits per emergency department, 8) change in average malpractice rates, and 9) number of advertisements for physician employment in the *New England Journal of Medicine*.



The deterioration in the Massachusetts Index in 2009 resulted primarily from four key variables:

- Professional liability rates
- Percent of physicians over 55 years of age
- Cost of maintaining a physician's practice
- Number of visits to Emergency Departments

The U.S. index provides a meaningful statistical reference point against which to judge the relative changes in the Massachusetts Index. Shown in Table 1 below are the average annual rates of change in these indexes for the most recent three-year period.

**Table 1**  
**Weighted Percent Rates of Change in the Massachusetts and US Indexes**

<u>Year</u>	<u>MA Index</u>	<u>US Index</u>
2007	+ 0.8%	+ 0.6%
2008	- 1.4%	+ 0.3%
2009	- 0.8%	+ 1.3%

The recent changes in these two important Indexes underscore the striking differences between the Massachusetts and the national physician environments. Since 2006, the Massachusetts Index declined 1.5 percent while the U.S. index advanced 1.2 percent. While these rates of change may seem small, they are substantial in terms of their impacts on the physician practices environments.

## The Dominant Factors Affecting the Index in 2009

The changes in the Massachusetts and U.S. indexes resulted from an interaction in a number of the key components.

**Table 2**  
**Comparative Details for the Dominant Factors Affecting the Changes in the Massachusetts and US Indexes in 2009**

	<u>MA Index</u>	<u>US Index</u>
Weighted Change in the Overall Index <sup>1</sup>	- 0.8%	+ 1.3%
Dominant Unweighted Changes Among Key Index Variables:		
• Professional Liability Rates	+ 4.0%	0.0%
• Number of visits to Emergency Departments	+ 3.5%	+2.8%
• Percent physicians over 55 years of age	+ 3.2%	+2.6%
• Cost of maintaining a physician's practice	+ 3.0%	- 1.3%
• Ratio of housing prices to median physician income	- 5.7%	- 11.8%
• NEJM Employment Ad Count	- 28.6%	-32.8%

<sup>1</sup> It should be remembered that when the overall Indexes are expressed in their final forms, the combined Index values are inverted. Thus, an increase in 2009 of 4.0 percent in professional liability rates is treated as having a negative impact – that is, a factor attributing to deterioration in the overall practice environment.

Over the past years, changes in these variables have dominated the performance of the two Indexes, but in 2009 the pattern was less consistent in a number of ways. The addition of the variable on the number of visits to hospital emergency departments represents a clear departure from past experience.

- Professional liability rates, percent of physicians over 55, and the cost of maintaining a practice explain most of the 2009 developments in the Massachusetts Index, but there are strong disparities between the rates of change in the national index compared to the Massachusetts index.
- The fact that professional liability rates were, on the average, unchanged nationally reflects “a market which is not firming,” according to the Medical Liability Monitor. It further states that 57 percent of the respondents indicated that their rates were unchanged, while another 36 percent reported a modest decline in rates.
- The physician’s cost of maintaining a practice increased 3.0 percent in Massachusetts though it declined 1.3 percent nationally, largely because the adverse effects of the relatively more severe national recession reduced office space rents rates and wage levels more significantly across the country than in Massachusetts. The difference between Massachusetts and the United States is also more pronounced when the average annual change in cost of doing business is combined with the average change in liability fees. Specifically, combining the cost of wages, office space, medical supplies, and professional liability fees demonstrates that Massachusetts physicians experienced a 3.2 percent increase in the total cost of doing business between 2008 and 2009 compared to a 1.0 percent decrease for U.S. physicians.

**Table 3**  
**Average Hourly Wage Rates in Massachusetts and the US in 2009**  
**and the Percent Increases for 1994 – 2009**

	<u>Average Hourly Wage Rate</u>	<u>Percent Increase 1994 - 2009</u>
<u>For MA:</u>		
Registered nurses	\$40.78	74%
Accounting specialists	\$21.79	95%
Secretaries	\$25.07	63%
<u>For US:</u>		
Registered nurses	\$32.76	43%
Accounting specialists	\$17.10	34%
Secretaries	\$19.73	33%

The higher wage levels and the sharper rates of increase are in themselves unenviable, but when taken together with the increase in professional liability rates, it underscores clearly the relative competitive disadvantage that falls on Massachusetts physicians compared to their national counterparts.

The continued softening in housing values in 2009 was a welcome development for physicians considering whether to establish their practice in Massachusetts. However, housing costs in Massachusetts remain significantly less affordable than other areas of the country (see Table 4).

**Table 4**  
**Housing Prices and Physician Incomes**

	<u>2006</u>	<u>2009</u>
<u>Massachusetts</u>		
Median Value Owner-Occupied Housing	\$458,319	\$404,558
Physician Median Income	\$200,000	\$216,700
Ratio of Housing Prices to Income	2.2916	1.8669
Percent Changes in:	2005-2006	2008-2009
Housing Prices	+ 1.0%	- 3.3%
Income	+ 1.7%	+ 2.5%
<u>US</u>		
Median Value Owner-Occupied Housing	\$316,179	\$268,804
Physician Median Income	\$222,400	\$243,500
Ratio of Housing Prices to Income	1.4217	1.1039
Percent Changes in:	2005-2006	2008-2009
Housing Prices	+ 7.7%	- 9.4%
Income	+ 1.9%	+ 2.8%

A final comment about the very sharp declines in NEJM employment ads, both in Massachusetts and nationally. A portion of this decline reflects the serious underlying problems in the economy, but may also reflect the increased proliferation of alternative job search means such as the Internet. A review of the historical behavior of changes in the NEJM employment ads shows significant annual variations, both in magnitude and direction of changes.

In compiling this year's indexes, it was decided to reduce fractionally the weighting of this variable to provide greater stability to the overall Indexes while simultaneously keeping this important variable in the Indexes. Accordingly, the two indexes produced in this year's report reflect the weighting revisions dating backward to 1997 – the first year in which the NEJM ads were introduced.

### **Emergency Room Utilization Rates and Its Relationship to Health Care in Massachusetts**

The variable of emergency department visits highlights a new and disturbing dimension in the Index. The significant impact of this variable on the 2009 index – second only to professional liability rates – underscores the fact that primary health care services are occurring in emergency departments.

It should be recalled that one of the goals of the 2006 health reform law was to shift patient care away from emergency departments to primary care physicians. The data and the analysis that follow show clearly that this has not been the result. Emergency department utilization in Massachusetts actually increased in 2009, even after the passage of health reform.

**Table 5**  
**Intensity of Patient Reliance on Emergency Departments Over the Past Fifteen Years**  
**(Patient Visits per Emergency Department)**

<u>Period</u>	<u>MA</u>	<u>US</u>
1994	32,882	20,752
1999	35,404	24,247
2004	39,383	28,032
2009	44,814	31,872

Emergency department patient utilization rates are not only increasing over time in Massachusetts relative to the U.S. on a per-hospital basis, but Massachusetts patients continue to rely more intensively on emergency departments for their medical care, on a per capita basis, as well. The average hospital emergency department in Massachusetts reported 40 percent more patient visits than the average U.S. emergency department. The American Hospital Association found that the number of emergency outpatient visits per 1,000 population in 2008 was approximately 19 percent higher in Massachusetts than the U.S., or 480.1 emergency outpatient visits per 1,000 population in Massachusetts, compared to 404.6 in the U.S.

The Urban Institute studied this phenomenon in *Who Uses Emergency Care and Why? A Massachusetts Health Reform Survey*. It concluded that 54 percent of the 18 to 64 year-old population sought access to local emergency departments simply because “it was more convenient to do so.” This is a most disturbing conclusion given the ongoing efforts to rebalance the health care system between emergency departments on the one hand and primary care physicians on the other.

These important empirical conclusions should cause considerable concern about the increased pressures that the implementation of universal health care coverage in Massachusetts and the nation will have on already stressed emergency departments.

## 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 Over 55**  
Source: *Physician Characteristics and Distribution in the US, 1993 to 2009*, American Medical Association.
- 3. New England Median Physician Income**  
Source: *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1993 to 2003*, American Medical Association. Estimates made by The Howell Group for the years 2003 and 2004 were based on data from Medical Group Management Association's *Physician Compensation and Production Survey, 2003 and 2004*. 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, 2009*, and data from Medical Economics' annual Physician Salary and Compensation Survey (note, for comparison the data from the Medical Economics survey was trended from 1992 through 2005 and resulted with similar rate changes on an annual basis.).
- 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 2008 to 2009 rates of change. *Physician Marketplace Statistics* and *Physician Socioeconomic Statistics, 1993 to 2003*, American Medical Association.
- 5. Cost of Maintaining a Practice**  
Composed of three components:
  - A composite of physician office hourly wages for accounting clerks, registered nurses, and secretaries from 1994 to 2009  
Source: U.S. Bureau of Labor Statistics' annual *National Compensation Survey, 1992 to 2009*.
  - 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 of each state, 1994–2009, Research Department, Grubb & Ellis
- 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,™ 2009*, 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.

**9. Annual Number of Advertisements for Unfilled Positions 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 Over 55**

Source: *Physician Characteristics and Distribution in the US, 1993 to 2009*, American Medical Association.

**3. U.S. Median Physician Income**

Source: *Physician Marketplace Statistics and Physician Socioeconomic Statistics, 1993 to 2003*, American Medical Association and the Medical Group Management Association's *Physician Compensation and Production Survey, 2003 and 2004*. 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, 2009*, and data from Medical Economics' annual Physician Salary and Compensation Survey (note, for comparison the data from the Medical Economics survey was trended from 1992 through 2005 and resulted with similar rate changes on an annual basis).

**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 2008 to 2009 rates of change. *Physician Marketplace Statistics and Physician Socioeconomic Statistics, 1993 to 2003*, American Medical Association.

**5. U.S. Physician Cost of Maintaining a 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 2009
- Source: U.S. Bureau of Labor Statistics' annual *National Compensation Survey, 1992 to 2009*.
- Mean medical supply expenses per self-employed physician.
- Source: *Physician Marketplace Statistics and Physician Socioeconomic Statistics, 1995 to 2003*, American Medical Association.
- 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 2009.

**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 and the Medical Group Management Association's *Physician Compensation and Production Survey, 2004 to 2009*.

**7. Annual Number of Visits per Emergency Department**

Source: *AHA Hospital Statistics™, 2009*, 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; *2009 Rate Survey*, October 2009 Medical Liability Monitor.

**9. Annual Number of Advertisements for Unfilled Positions 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*.

*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, ext. 7661.*



**MMS Practice Environment Index**  
**Massachusetts Underlying Data: 2009**

	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
<b>1992</b>	18,387	30.5%	\$140.0	1.1370	---	49.5	34,597	100.0	---
<b>1993</b>	21,403	30.7%	\$140.0	1.1509	---	47.7	32,691	100.0	---
<b>1994</b>	25,854	30.8%	\$135.0	1.2337	100.0	48.5	32,882	107.5	---
<b>1995</b>	28,737	31.1%	\$140.0	1.2141	118.5	47.2	33,142	117.6	---
<b>1996</b>	28,508	32.1%	\$145.0	1.2264	125.1	51.3	31,865	117.6	1,537
<b>1997</b>	26,111	32.5%	\$150.0	1.2633	130.8	52.1	33,235	117.6	1,238
<b>1998</b>	24,159	32.3%	\$150.0	1.3888	138.6	50.4	32,126	124.7	1,403
<b>1999</b>	26,736	32.8%	<i>\$152.0</i>	<i>1.5473</i>	145.4	48.9	35,404	124.7	1,465
<b>2000</b>	25,347	33.8%	\$159.0	1.7222	161.2	<i>49.1</i>	36,700	135.9	2,040
<b>2001</b>	23,479	34.4%	\$167.0	1.8626	157.1	49.4	36,727	154.9	2,626
<b>2002</b>	21,313	35.5%	\$175.0	2.0103	158.8	49.6	38,954	174.3	2,647
<b>2003</b>	22,737	36.9%	<i>\$185.2</i>	<i>2.0022</i>	162.0	49.8	40,133	209.3	2,720
<b>2004</b>	23,327	37.4%	<i>\$186.8</i>	<i>2.2669</i>	165.0	<i>50.0</i>	39,383	232.3	2,184
<b>2005</b>	24,290	37.9%	<i>\$196.7</i>	<i>2.3072</i>	171.5	<i>50.2</i>	39,263	232.3	2,520
<b>2006</b>	25,318	39.0%	<i>\$200.0</i>	<i>2.2916</i>	177.2	<i>50.4</i>	43,003	243.9	3,293
<b>2007</b>	27,492	40.2%	<i>\$207.4</i>	<i>2.1391</i>	182.9	<i>50.6</i>	43,660	238.3	3,319
<b>2008</b>	27,117	41.8%	<i>\$211.4</i>	<i>1.9790</i>	189.1	<i>50.8</i>	43,328	250.9	3,941
<b>2009</b>	26,483	43.2%	<i>\$216.7</i>	<i>1.8669</i>	<i>194.8</i>	<i>51.0</i>	<i>44,814</i>	261.0	2,812

*Estimates in italics*



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**MMS Practice Environment Index**  
**U.S. Underlying Data: 2009**

	U.S. Med School Applications	U.S. Physicians % Over 55	U.S. Median Phys. Income (Thous. \$)	U.S. Ratio Housing Price to Median Physician Income	U.S. Physician Cost of Doing Business 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
<b>1992</b>	405,720	34.3%	\$150.0	0.9760	---	52.9	19,785	100.0	---
<b>1993</b>	482,788	34.8%	\$156.0	0.9173	---	52.9	20,325	104.3	---
<b>1994</b>	561,593	34.7%	\$150.0	0.9467	100	52.1	20,752	109.2	---
<b>1995</b>	595,975	35.0%	\$160.0	0.8925	98.4	51.3	22,688	108.5	---
<b>1996</b>	566,122	36.0%	\$166.0	0.9343	98.7	53.4	23,168	102.5	11,597
<b>1997</b>	512,877	36.2%	\$164.0	1.0030	102.8	53.2	21,738	103.2	17,870
<b>1998</b>	481,330	35.8%	\$160.0	1.0838	115.3	51.7	23,452	121.5	22,595
<b>1999</b>	454,364	36.7%	<i>\$167.0</i>	<i>1.1030</i>	119.4	51.6	24,247	124.2	22,697
<b>2000</b>	433,979	36.9%	\$175.0	1.1366	128.7	52.2	25,318	135.4	25,560
<b>2001</b>	403,609	37.5%	\$183.0	1.1776	130.2	52.8	26,195	154.4	24,661
<b>2002</b>	373,686	38.6%	\$192.0	1.2042	128.5	53.2	27,236	168.3	21,023
<b>2003</b>	392,118	39.5%	\$204.3	1.1914	131.7	53.7	27,230	208.7	20,525
<b>2004</b>	411,151	39.9%	\$206.3	1.2700	135.4	54.2	28,032	242.1	21,217
<b>2005</b>	448,820	40.6%	\$218.3	1.3444	141.8	54.7	28,588	260.0	21,396
<b>2006</b>	483,148	41.6%	\$222.4	1.4217	145.5	55.2	30,197	260.0	22,783
<b>2007</b>	546,817	42.9%	\$232.0	1.3751	150.3	55.7	30,699	261.0	19,595
<b>2008</b>	558,053	44.3%	\$236.8	1.2529	155.1	56.2	31,012	249.8	23,384
<b>2009</b>	562,694	45.5%	\$243.5	1.1039	153.1	56.7	31,872	249.8	15,720

*Estimates in italics*



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