



Perspective

Health Care Reform and the Health Care Workforce — The Massachusetts Experience

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In 2006, Massachusetts enacted legislation to provide universal health insurance coverage that later served as a model for the national health care reform legislation passed in 2010. Phased in during 2007,

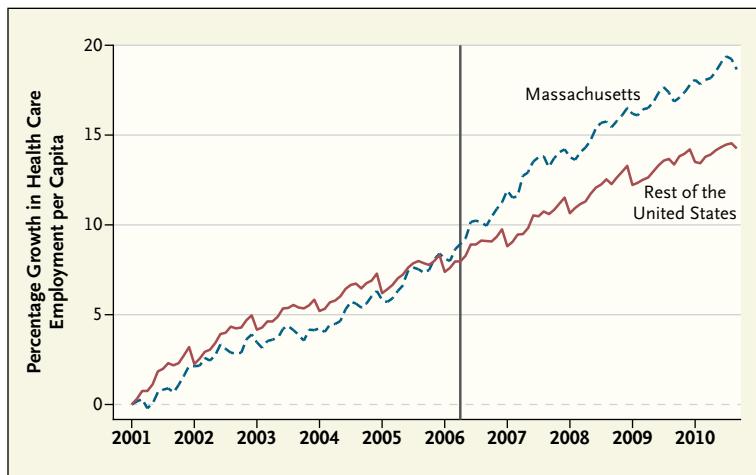
the Massachusetts Health Care Reform Plan offered insurance subsidies for low-income individuals, expanded Medicaid coverage, and created an individual mandate to obtain insurance, pay-or-play requirements for employers, and a state insurance exchange through which many of the newly insured Massachusetts residents obtained coverage. Since implementing these provisions, Massachusetts has achieved near-universal insurance coverage but has also seen continuing growth in health insurance premiums, a net increase in state spending on health care, and growing political pressures to control cost growth.^{1,2} Polls of the public and of physicians indicate that the state's

health care reforms are generally viewed favorably, though physicians are concerned about access to primary care and administrative burdens.³

The Massachusetts reform experience has been watched closely for indications of what might occur throughout the country as national health care reform is implemented under the Accountable Care Act (ACA). One aspect of the Massachusetts experience that has remained unexplored is the impact on the health care workforce, particularly the question of whether greater numbers of health care professionals or support personnel were needed to ensure the success of the reform in increas-

ing access to care. If successful reform requires a larger health care workforce, then implementation of the ACA may increase health care costs and exacerbate expected shortages of physicians and registered nurses.

To examine the impact of the Massachusetts reform on the state's health care workforce, we analyzed data on total and occupation-level employment per capita in the health care industry and compared trends before and after reform in Massachusetts with those in all other states. We defined health care employment as including all employees of hospitals and ambulatory service providers, but we excluded employees of nursing and residential care facilities, since they weren't directly affected by reform. Data on total health care employment came from the U.S. Bureau of Labor Statistics Quarterly Census of



Growth in Health Care Employment per Capita since January 2001 in Massachusetts and in the Rest of the United States.

The plotted values represent cumulative percentage growth in health care employment per capita from January 2001 through September 2010. The vertical line marks the passage of the Massachusetts Health Care Reform Plan in April 2006. Health care employment includes all employees of hospitals and ambulatory service providers. Monthly data on health care employment come from the U.S. Bureau of Labor Statistics. There is no sampling error for these estimates because they are based on a census of all employers.

Employment and Wages, which publishes monthly counts of employment reported by employers covering 98% of jobs in the United States. These data are available at the state level by industry and are the primary data used by the U.S. government to track trends in industry employment. Data on health care employment within major occupations were derived from the American Community Survey, which has surveyed a nationally representative sample of nearly 3 million households each year since 2005 and was developed by the U.S. Census Bureau to replace the long form of the decennial census.

Since Massachusetts enacted the Health Care Reform Plan in early 2006, total health care employment per capita in the state has grown more rapidly than that in the rest of the country (see graph). From January 2001

to December 2005, employment per capita grew by just over 8% in both Massachusetts and rest of the country. Subsequently, health care employment grew faster in Massachusetts, increasing by 9.5% from December 2005 through September 2010, while the rate of growth in the rest of the country was 5.5%. Most of the divergence in employment growth between Massachusetts and the rest of the country occurred in 2006 and 2007, when the Massachusetts reforms were being phased in. Had health care employment in Massachusetts grown at the same rate as in the rest of the country, approximately 18,000 fewer people would have been employed in health care by 2010.

Most of the difference in health care employment growth occurred in administrative occupations (see table). From 2005–2006 to 2008–2009, employment per capita in administrative oc-

cupations grew by 18.4% in Massachusetts, as compared with 8.0% in the rest of the country ($P=0.015$). These administrative occupations include management, business and financial operations, and office and administrative support (including medical records and health information technicians). In contrast, employment levels in nonadministrative positions in Massachusetts increased by 9.3% after health care reform, an increase similar to that of 8.6% in the rest of the United States ($P=0.796$). Workers in this category include physicians and nurses, whose combined employment level increased by only 2.8% in Massachusetts, and people who provide patient care support, such as therapists, technicians, and aides, whose combined employment level increased by 18% in Massachusetts. Although employment growth in patient care support occupations in Massachusetts was not significantly different from that in the rest of the country, it was significantly greater than employment growth for health care professionals in Massachusetts ($P=0.022$). Employment in “all other occupations,” a category that includes food-services workers and janitors, increased by 7.6% in Massachusetts, a growth rate similar to that in the rest of the country.

These data suggest that enactment of reform in Massachusetts was associated with more rapid growth in health care employment, primarily in administrative occupations and (perhaps) patient care support occupations rather than among physicians and nurses. It is possible that these employment trends are partially attributable to other changes in Massachusetts coinciding with health care reform, such as an increased

intensity of utilization management reported during this period that was not necessarily related to the state's reform.⁴ Nevertheless, it is not surprising to see an increase in health care employment, particularly in occupations to which people can shift rapidly with brief training time, given that an estimated 400,000 people had gained insurance coverage by the end of 2008. It is plausible that additional employees were required to manage the care of the new enrollees, process applications, file insurance claims, submit information to comply with regulatory requirements, and carry out other administrative functions (although such an effect could be large initially and then diminish as processes are refined and made more efficient). In addition, the growth in employment in administrative occupations is consistent with a recent survey in which physicians reported that the most negative effect of the new law was the administrative burden it placed on their practice.³

It is uncertain whether the experience of the Massachusetts health care reform provides an accurate indication of how the health care workforce in other states might be affected as the ACA is implemented. For one thing, Massachusetts was unlike many states in that before adopting its plan, it had a low proportion of uninsured residents, a highly regulated insurance market, and an uncompensated care pool.¹ Also, the numbers of physicians and nurses per capita in Massachusetts were already among the highest in the country, and this ample workforce may have facilitated absorption of large numbers of newly insured people without compromising access. Finally, the

Growth in Health Care Employment per Capita between 2005–2006 and 2008–2009 for Selected Occupations in Massachusetts and in the Rest of the United States.*

Occupation	Percentage Growth in Health Care Employment per Capita between 2005–2006 and 2008–2009		
	Massachusetts	Rest of the United States	P Value
Administration	18.4	8.0	0.015
Not administration	9.3	8.6	0.796
Health care professionals	2.8	5.9	0.458
Patient care support	18.2	11.4	0.196
All other occupations	7.6	9.5	0.788

* 2005 and 2006 were the 2 years leading up to reform, and 2008 and 2009 were the first 2 years after implementation. Administration occupations include management, business, and financial operations and office and administrative support (including medical records and health information technicians). "Not administration" includes all other occupations, which were divided into the remaining exhaustive subcategories: health care professionals (physicians and nurses), patient care support (therapists, technicians, and aides), and all other occupations (primarily food service, security, and janitorial personnel). Estimates were derived from the U.S. Census Bureau American Community Survey, which surveys a nationally representative sample of nearly 3 million households each year. Standard errors on the estimates were derived using the replicate weight method (<http://usa.ipums.org/usa/repwt.shtml>).

increase in insurance coverage resulting from the ACA will be coupled with cost-control provisions, such as the establishment of the Independent Payment Advisory Board and reductions in Medicare's payments to hospitals and to its Advantage plans — provisions that would ultimately be expected to constrain workforce growth more than was the case in Massachusetts.

Despite these caveats, the Massachusetts experience provides lessons for national health care reform. First, reform may accelerate the trend toward health care's being the dominant employment sector in the economy. More important, our analysis supports physicians' concerns about the administrative burden of health care reforms, an issue that will have to be addressed as the ACA is implemented. Finally, rather than requiring greater numbers of physicians and nurses, reform

may require larger numbers of people supporting the work of such health care professionals.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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