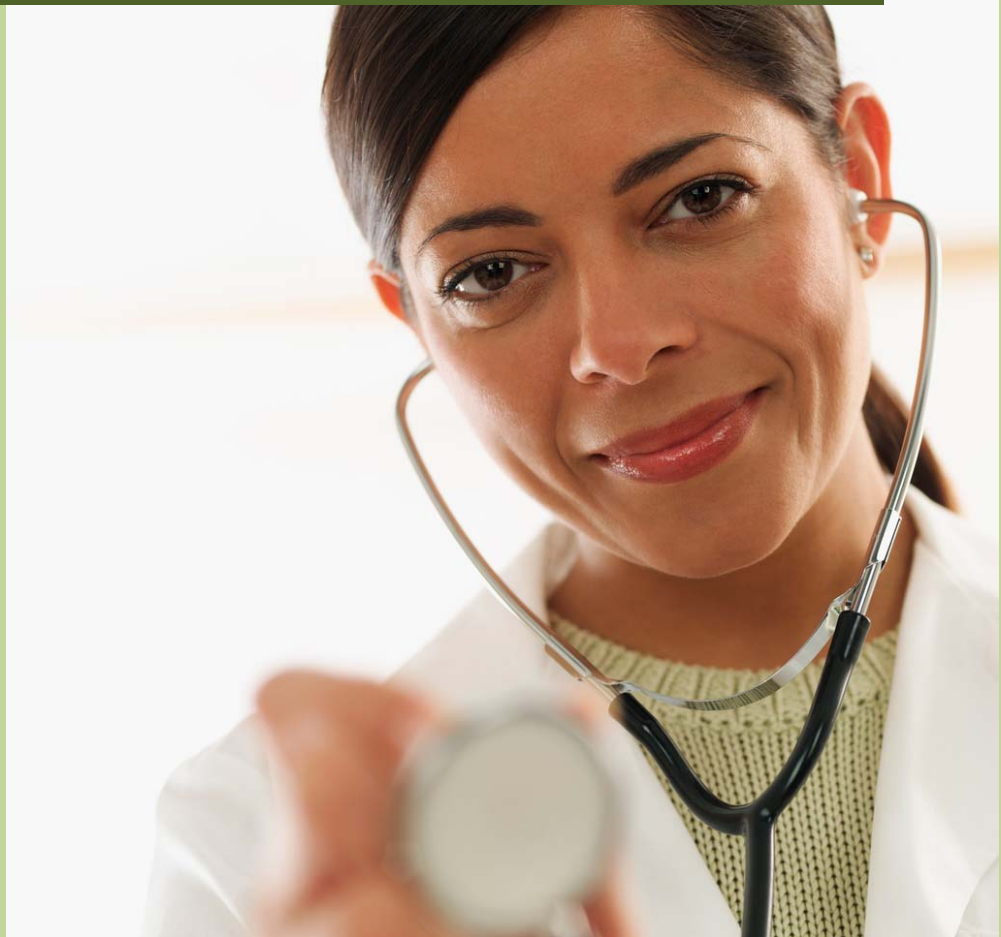


Health Care Premium Expenditures in Massachusetts: Where Does Your Health Care Dollar Go?



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Massachusetts Medical Society

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Executive Summary

The purpose of this report is to describe where health care premium dollars are spent and to identify the factors driving rising health care costs and health insurance premiums in Massachusetts. This report was commissioned by the Massachusetts Medical Society (MMS) in order to provide background research and analysis for a public relations campaign entitled “Where Does Your Health Care Dollar Go?”

For this report, a number of publicly available data sources for the analysis of health care costs and health insurance premiums were used, including data from government and private surveys of employer-based health insurance plans. In addition, a review of the current literature was used to advise the discussion regarding the primary drivers of health care costs in Massachusetts.

Some of the key findings include:

- Total health care expenditures in Massachusetts reached \$43 billion in 2004, representing an increase of 35 percent from 2000 and an increase of 73 percent from 1995.
- Historically, Massachusetts has had the highest per capita personal health care expenditures of any state. In 2004, Massachusetts spent 27 percent more per capita on health care than the national average. The gap in per capita spending between Massachusetts and the U.S. grew 43 percent from 2000-2005.
- The three largest components of health care expenditures in Massachusetts are: hospital care, physician and clinical services, and drugs and other medical nondurables. Together, these cost components made up 73 percent of total health care expenditures in 2004. Over recent years, hospital care expenditures have grown at an accelerated rate compared to the flat growth rate of physician and clinical services and the declining growth rate of drugs and other medical nondurables.

- From 2001 to 2005, the median employer-based individual premium in Massachusetts increased 45 percent, while the median employer-based family premium increased 46 percent.
- In 2005, the cost of an individual premium in Massachusetts was 6 percent higher than the national average, while family premiums were 7 percent higher.
- 2007 marked the fourth consecutive year that the average rate of increase in U.S. health insurance premiums decreased, dropping to 6.1 percent from a high of 13.9 percent in 2003. However, the annual rate of increase in premiums continues to far exceed the rate of overall inflation.
- The average percentage of premium dollars spent on medical costs by health plans in Massachusetts in 2006 was 90 percent, with the remaining dollars going towards administrative costs and surplus.¹
- From 2003 to 2006, annual per member spending on administrative expenses by Massachusetts' three largest health carriers increased 47 percent, while annual per member spending on medical costs rose 33 percent.

Massachusetts would benefit from the formation of a centralized data repository with annual or quarterly collection of health care expenditure and premium data. This effort would require the development of consistent and uniform data specifications regarding the various components of health insurance premiums and health care costs in Massachusetts. These data would make it possible to track growth trends over time across carriers and cost centers. These data could also be used to develop initiatives to mitigate future cost increases and to address several of the major drivers of health care costs discussed in this report.

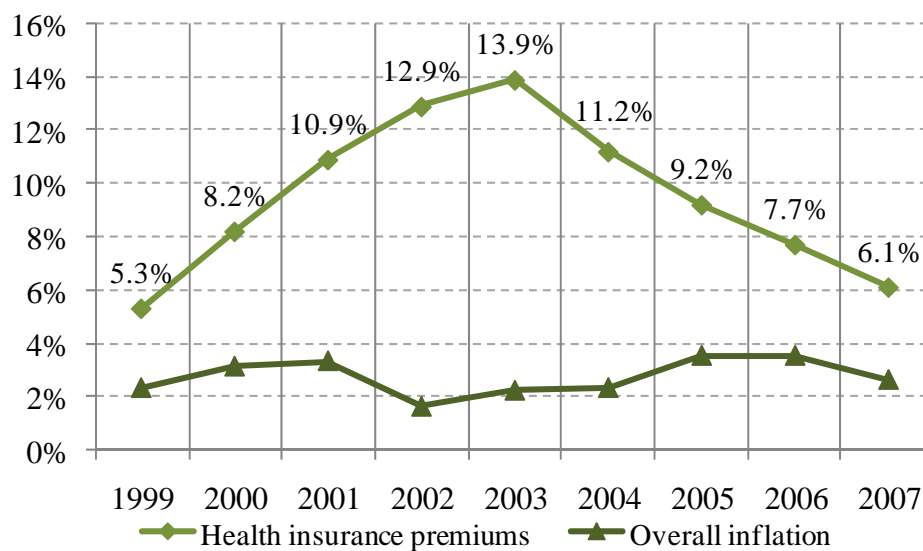
¹ As reported on the MAHP website, thus this figure does not include BCBS of Massachusetts.

Introduction and Background

The rapid rise in health care costs and premiums has garnered much attention in the press and has been well documented in the literature in recent years. Although costs continue to rise, few strategies have been developed to address rising costs. Understanding the components of health insurance premiums and the drivers behind rising costs in premiums is imperative to the development of workable cost containment strategies. In this report, an examination of the various components of health insurance premiums is conducted and the factors fueling rising health care costs and premiums in Massachusetts are identified. Comparisons to overall trends in the United States are also provided for context.

Individuals experience the rise in health care costs via increases in their health insurance premiums, as well as through growing cost sharing mechanisms such as co-payments and deductibles that are paid out-of-pocket at the time of service delivery. Premiums continue to rise annually in the United States, with the average annual percentage increase varying from year-to-year (Figure 1). This percentage increase peaked at 13.9 percent in 2003. While the rate of increase has declined in recent years, premium increases still well out-pace overall inflation. As this trend continues, employers and consumers will continue to pay more for health insurance at a rate some say is unsustainable.

Figure 1. U.S. Average Percentage Increase in Health Insurance Premiums, 1999-2007



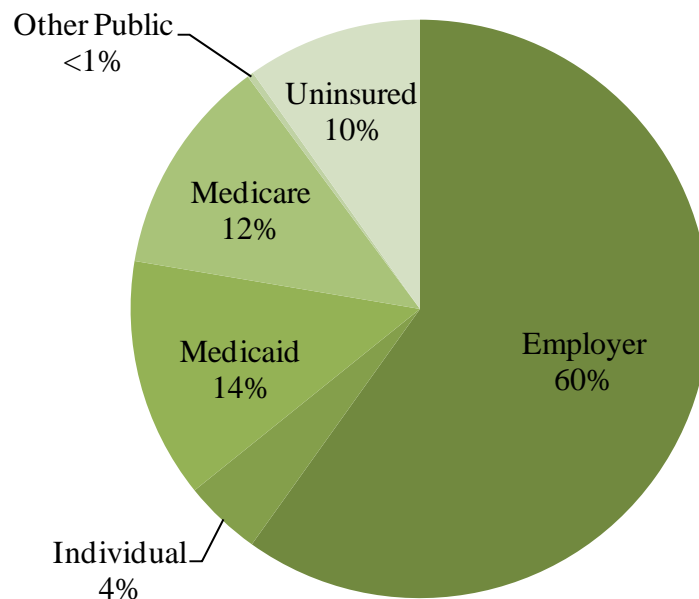
Adapted from "Employer Health Benefits 2007 Annual Survey," The Kaiser Family Foundation & Health Research and Educational Trust.

Source: Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 1999–2007; Bureau of Labor Statistics, Consumer Price Index, U.S. City Average of Annual Inflation (April to April), 1999–2007.

Note: Data on premium increases reflect the cost of health insurance premiums for a family of four. The average premium increase is weighted by covered workers.

The leading source of health insurance for Americans is employer-based coverage²; thus, much of the focus of this report is based on available data for privately insured individuals. In 2003, 66 percent of private sector establishments offered health insurance to employees in Massachusetts.³ In 2005, 60 percent of those insured in Massachusetts had employer-based coverage (Figure 2). While it may also be important to examine rising costs in publicly sponsored health insurance, this report is primarily focused on trends related to private health insurance premiums.

Figure 2. Health Insurance Coverage of Massachusetts Residents, 2005-2006



Source: The Kaiser Family Foundation. Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on the Census Bureau's March 2006 and 2007 Current Population Survey (CPS: Annual Social and Economic Supplements).

Note: Total population: 6,328,345. Percentage of individuals in the population per coverage type indicated.

It is important to examine both medical and non-medical costs as potential drivers of the year-to-year increases in premiums experienced in Massachusetts. Medical expenses consist of expenses for

² "Employer Health Benefits 2007 Annual Survey," The Kaiser Family Foundation & Health Research and Educational Trust. Available at: <http://www.kff.org/insurance/employer.cfm>

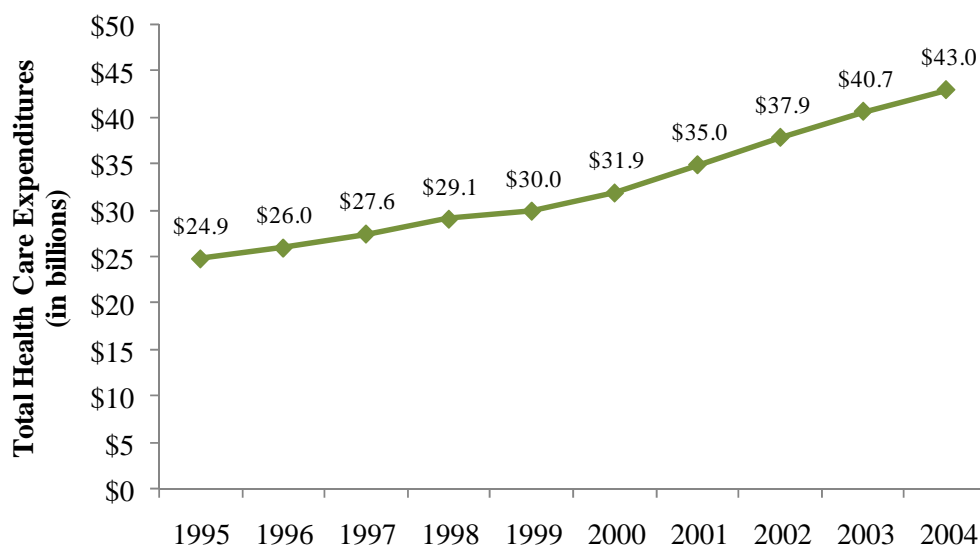
³ The Kaiser Family Foundation, www.statehealthfacts.org

medical goods and services, while non-medical expenses are primarily comprised of administrative costs associated with administering health insurance benefits such as processing claims, customer service, enrollment and billing, legal expenses, and physician and hospital contracting. The administrative component also often includes surplus or loss on underwriting activities by the insurer.

In general, increased premiums are a reflection of rising medical expenses, but non-medical expenses also make up a sizeable portion of the increased cost to consumers. A discussion of the variability among carriers regarding increases in both medical and non-medical expenses will be presented. Some of this variation may represent reporting differences and changes over time due to a lack of a common definitions or application of standardized accounting guidelines. However, some of the variability among carriers is likely real and these inefficiencies provide at least some opportunity for improvement.

In order to understand how premium dollars are spent, a detailed discussion and comparison of the cost drivers fueling rising health care expenditures is necessary. Health care expenditures in Massachusetts reached \$43 billion in 2004, an increase of 73 percent over 10 years from 1995-2004 (Figure 3). The economics of health care is complex and the purpose of

Figure 3. Total Health Care Expenditures in Massachusetts, 1995-2004



Source: Centers for Medicare & Medicaid Services (CMS), Office of the Actuary.

this report is not to determine the interplay of all of the economic factors driving health care costs. Rather, a detailed examination of the three largest cost drivers fueling rising health care costs in

Massachusetts: hospital care, physician and clinical services, and drugs and other medical nondurables is provided. The importance of considering all of the factors contributing to total health care expenditures together is stressed, as no single component drives cost increases alone. Given the amount of dollars spent on health care premiums by government, employers and consumers, even a relatively small component can add significant costs to the health care premium and should not be overlooked.

This report provides information that may be useful to health care providers, consumers, and policymakers regarding how premium dollars are spent. While this report provides an overview of potential cost drivers of health care, a central data collection system would be necessary to track cost components annually and to provide a detailed analysis of health care expenditures. To date, no single federal or state agency collects such data from insurers, hospitals and providers in a uniform fashion. In 2006, Chapter 58 established the Health Care Quality and Cost Council in Massachusetts. One of the primary responsibilities of the council is to develop strategies to contain health care costs as well as “to disseminate, through a consumer-friendly website and other media, comparative health care cost, quality, and related information for consumers, health care providers, health plans, employers, policy-makers, and the general public.”⁴ An accessible and detailed review of health care costs in Massachusetts is not yet available, but a “Statistical Plan for Uniform Reporting System for Health Care Claims Data Sets” is currently available on the Council website.⁵ This is promising first step for the transparency of provider claims but a similar transparency effort from insurers is required. Through the combined efforts of providers, insurers and policymakers, true transparency can and will become a reality.

Following this introduction, the methodology section describes the various resources and data used in this report. The results and findings of the report are subsequently discussed, beginning with an analysis of health insurance premium trends at the national level. Next is a discussion of state-specific premium trends followed by a comparison of Massachusetts and U.S. premium increases. This discussion of premiums is followed by findings for specific health care expenditures and a

⁴ The Commonwealth of Massachusetts Health Care Quality and Cost Council. Online at: http://www.mass.gov/?pageID=hqccutilities&L=1&sid=Ihqcc&U=Ihqcc_welcome

⁵ The Commonwealth of Massachusetts Health Care Quality and Cost Council. Online at: <http://www.mass.gov/?pageID=hqccctopic&L=3&L0=Home&L1=The+Council&L2=Data+Submission+Information&sid=Ihqcc>

discussion of the three major cost drivers fueling rising health care costs in Massachusetts. The report ends with the conclusion and recommendations section in which the results are summarized.

Methodology

There is a direct relationship between increasing health care expenditures and health insurance premiums. For the most part, increases in premiums are caused by increases in prices for medical services, increases in utilization, or both. However, there are other costs built into the premiums such as administrative costs. Are health insurance premium increases due primarily to the rate of growth of overall health care expenditures, greater utilization or some combination? Is the growth in administrative costs reasonable?

A number of challenges exist in answering these questions. While information regarding various aspects of health care expenditures and premiums is collected by several agencies at the national and state level, there is no central data collection agency. This complicates a systematic analysis of health care expenditure and premium growth. The existing non-uniform data collection and reporting measures limit the utility of available data for cross-resource and across time comparisons. In this report, an attempt is made to synthesize data from the available data sources with limitations noted, when necessary.

At the national level, the Centers for Medicare and Medicaid (CMS) collects National Health Expenditure Data based upon the National Health Expenditure Accounts, which is the government's official estimate of health care spending in the United States. Based upon this information, every five years CMS publishes the State Health Expenditures Accounts (SHEA), a state-by-state breakdown of health care expenditures. While this data is the most comprehensive data resource available, it is limited to Personal Health Care Expenditures (PHCE). PHCE include expenditures on goods and services used to treat or prevent disease or conditions, but omit expenditures on medical research, construction and insurance administration. Despite its limitations, these data most accurately capture how health care dollars are spent at the state and national level.

Tracking where premium dollars are spent remains more elusive. National surveys tracking employer costs for insuring employees exist, such as The Kaiser Family Foundation's "Employer Health Benefits 2007 Annual Survey." The Medical Expenditure Panel Survey (MEPS), conducted by the U.S. Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ), also reports on employer-based premiums for individuals and families. In Massachusetts, the Division of Health Care Finance and Policy (DHCFFP) has conducted employer-based health insurance surveys on a biennial basis. These data capture trends in premium growth, but the surveys

were not designed to elucidate where the premium dollar is spent or to clarify what factors contributed to the observed growth in health insurance premiums.

At the state level, the Massachusetts Group Insurance Commission (GIC), the largest employer in the state, receives bids from a number of the state's major health plans. A review of these data offers a snapshot of the breakdown of premiums into medical and administrative expenses, but fails to provide a complete picture of the entire health plan environment.

In a move towards greater transparency in health care cost reporting, the Massachusetts Association of Health Plans (MAHP) recently published condensed financial data for MAHP member health plans. The data combines information on health plan revenues and expenses from three state entities: the Division of Insurance, the Division of Medical Assistance, and the Commonwealth Health Insurance Connector Authority. In a simplified manner, the report provides health plan financial data for fiscal year 2006 and the first and second fiscal quarters for 2007, providing general insight into the medical costs, administrative costs and surplus (loss) of these health plans. However, the data are limited by differences in allocation methodologies across health plans, a fairly short time period for data reported, and a lack of detail in regard to the breakdown of medical and administrative expenses.

Private insurance companies are also required to file financial data for fully insured plans with the Massachusetts Division of Insurance (DOI). These data are limited in several ways. First, there is the obvious omission of their self-insured book of business. The state cannot require that insurance carriers provide these data. Second, although the Division does provide the carriers with detailed specifications for how to characterize various expenses, allocation of expenses still varies from plan to plan and the Division does not audit for consistency but accepts the reports as filed making it difficult to compare data across carriers or time. These data were cited in a recent analysis of year-to-year increases across several broad categories of health care premiums, medical and administrative expenses⁶. This analysis also indicated that increased transparency on the part of insurance companies is needed in an effort to control rising health care costs, both system wide and specifically in premiums paid by individuals and employers.

The above sources were used to determine national as well as Massachusetts-specific trends in premiums and health care expenditures. A review of current literature and reports on premiums and

⁶ Turnbull, N. "The Cost Containment Dividend: What would you have done with an extra \$392—or \$727— last year?" Web Blog, posted December 31, 2007. Available at: <http://www.wbur.org/weblogs/commonhealth/?p=320>

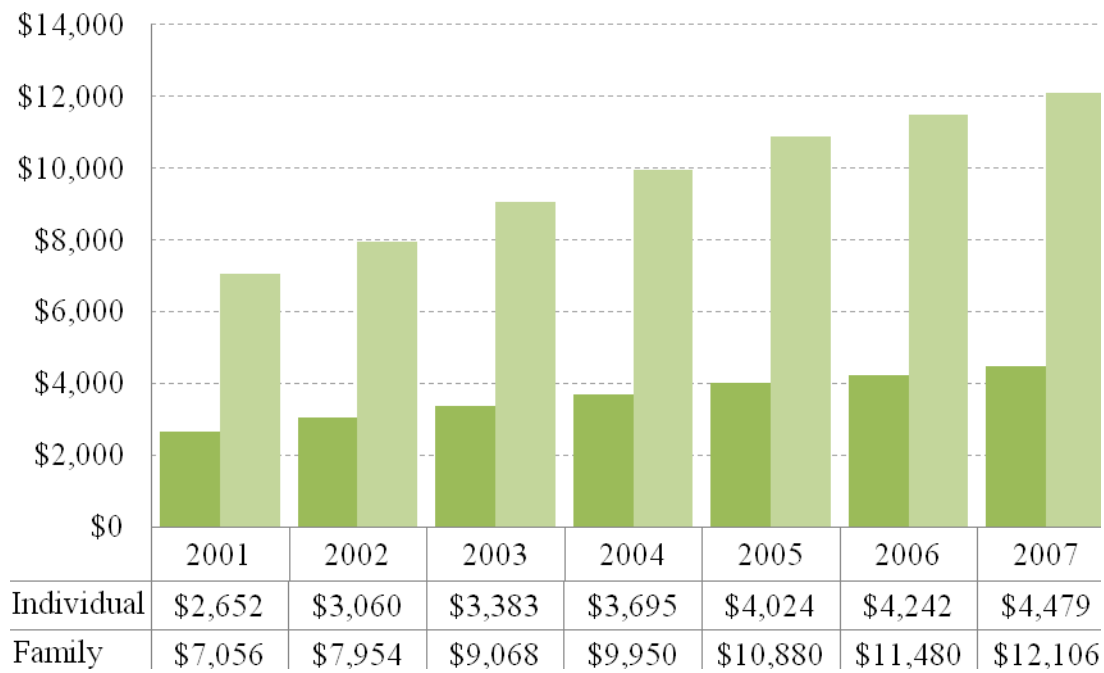
expenditures were also used to determine the major cost drivers fueling rising health care costs and increases in health insurance premiums. While tracking the effects of individual health care cost components on premium increases is beyond the scope of this report, broad insight into the relationship between health expenditure cost drivers, medical expenses, administrative expenses and profit, and premium rate increases is provided.

Results and Findings

Health Insurance Premium Trends, United States

Data collected and reported by The Kaiser Family Foundation (KFF) from their Employer Health Benefits Annual Survey describes trends in health insurance premiums at the national level. Based upon KFF data, employer-based individual health insurance premiums increased 69 percent or \$1,827 between 2001 and 2007 (Figure 4). During the same period,

Figure 4. U.S. Employer-Based Individual and Family Health Premiums, 2001-2007



Source: The Kaiser Family Foundation, "Employer Health Benefits Annual Survey, 2001-2007."

family premiums rose 72 percent or \$5,050. The rise in health care premiums is especially troubling when measured against per capita gross domestic product (GDP), growth in workers' earnings, and the rate of inflation. The cumulative growth in health insurance premiums between 2001 and 2007 was 72 percent while wages grew by only 23 percent and cumulative inflation was only 20 percent over the same time period. With growth of premiums far exceeding inflation and wage growth, employees have felt increased financial pressure and are paying far more out-of-pocket for premiums than in recent years.

Health Insurance Premium Trends, Massachusetts

The recently reported Massachusetts Association of Health Plans (MAHP) data consolidated financial data for its seven member health plans for fiscal year 2006 and Q1 and Q2 of 2007. The data for fiscal year 2006 was averaged across health plans and the expenses, the components on which premium revenue is spent, were calculated as a percentage of total premium revenue (Figure 5). The data show that 64 percent of revenue is spent on direct hospital and medical benefits, while 90 percent of total revenue is spent on overall medical costs. Non-medical expenses consisting of administrative costs and surplus make up 12 percent of total revenue (numbers may not add to 100 percent due to rounding). Figure 6 shows the medical expense ratio, a measure of the percentage of premium dollars spent on medical care; the

Figure 5. Average MAHP Member Health Plan Expenses, 2006

	% of Total Revenue
Medical Costs	
Hospital/Medical Benefits	64%
Other professional services	7%
Outside referrals	3%
ER and out-of-area	4%
Prescription Drugs	11%
Incentive pool	1%
Administrative Costs	
Claims adjustment expenses	2%
General administrative expenses	7%
Surplus	
Net Underwriting Gain or (loss)	3%

Source: Massachusetts Association of Health Plans (MAHP). Revenue and Expense figures compiled by MAHP from data filed with one of three state entities: the Division of Insurance, the Division of Medical Assistance, or the Commonwealth Health Insurance Connector.

Note: Percentages may not add to 100 due to rounding.

administrative expense ratio, the percentage of premium dollars spent on claims adjustment and general administrative expenses; and, the surplus/loss ratio, the percentage of premium dollars remaining after medical and administrative expenses are paid that results in a profit or shortfall. The variation among health plans is reflected by the wide range in these ratios. On the whole, a majority of

premium dollars are spent on direct medical expenses, while a less sizeable portion makes up administrative expenses.

Figure 6. MAHP Member Health Plan Financial Ratios

MAHP Member Averages	Year End 2006	Q1 & Q2 2007	% Change:
<i>Medical Expense Ratio</i>	88%	91%	3%
Range	85-95%	88-97%	
<i>Administrative Expense Ratio</i>	10%	9%	-1%
Range	8-13%	6-13%	
<i>Surplus/Loss Ratio</i>	2%	0.2%	-2%
Range	(-)3-4%	(-)3-3%	

Source: Massachusetts Association of Health Plans (MAHP). Revenue and Expense figures compiled by MAHP from data filed with one of three state entities: the Division of Insurance, the Division of Medical Assistance, or the Commonwealth Health Insurance Connector.

The online publication of these data by the MAHP represents a positive first step towards the transparent reporting of financial data to the public by insurers. However, the lack of regulation and uniformity in the classification of line-item expenses across health plans, along with the short time period for which data are presented, limit the data for use in this report. Furthermore, Massachusetts' largest health insurer, Blue Cross/Blue Shield of Massachusetts, is not a member of MAHP. Thus, the private insurance market is not well reflected herein.

Further insight into the Massachusetts premium environment is provided by analysis of information obtained from the Massachusetts Group Insurance Commission (GIC). The GIC receives bids from Commonwealth health plans that are interested in providing services to state employees. As Massachusetts' largest "employer," the GIC is in a leveraged position, allowing it to require that historical premium prices as well as a breakdown of administrative costs be reported by bidding carriers. Based upon 2008 bids from two large Massachusetts' health plans, the average premium for an individual is expected to rise 14 percent from 2006 levels and the average premium for a family is expected to rise 15 percent over the two year period from 2006 to 2008 (Figure 7). Although these data represent a finite portion of the premium market, these

Figure 7. Average Individual and Family Premiums in Massachusetts, 2006-2008

	2006	2007	2008
Individual Premium	\$4,936	\$5,257	\$5,639
Yearly % Increase - Individual	--	7%	7%
Family Premium	\$11,960	\$12,738	\$13,710
Yearly % Increase - Family	--	7%	8%

Source: Massachusetts Group Insurance Commission, 2004 & 2006 historic health plan bid data

Note: 2008 values based upon bid estimates.

data clearly show that individual and family premiums are rising in Massachusetts at a pace greater than national averages would indicate, even for large employers with leveraged power to negotiate rates.

In 2001, 2003 and 2005 the Division of Health Care Finance and Policy (DHCFP) administered the Massachusetts Employer Health Insurance Survey. The Center for Survey Research at UMass/Boston administered the survey to 1,000 private employers of two or more employees. The median individual and family premiums from these surveys are presented in Figure 8. From 2001 to 2005, the median individual premium increased 45 percent or \$1,368 and the median

Figure 8. Median Massachusetts Family and Individual Premiums



Source: Massachusetts Division of Health Care Finance and Policy (DHCFP), Massachusetts Employer Health Insurance Survey (2001, 2003, 2005).

family premium rose 46 percent or \$3,600. This large increase reflects the rapidly increasing employer-based premium rates in Massachusetts. Results from the DHCFP Surveys show that the increase in employee contributions to an individual plan premium was 50 percent from 2001 to 2003 and 33 percent from 2003 to 2005. The increase in employee contribution to a family plan premium was 25 percent from 2001 to 2003 and 11 percent from 2003 to 2005.

Health Insurance Premium Trends, United States vs. Massachusetts

The Department of Health and Human Services Agency for Healthcare Research and Quality (AHRQ) conducts the Medical Expenditure Panel Survey (MEPS), a large-scale survey of individuals and families, their medical providers and United States employers. The 2005 MEPS data reveal values for individual and family health insurance premiums similar to those reported by the KFF and the DHCFP. Individual premiums average \$4,235 while family premiums average \$11,435 in Massachusetts, 6 percent and 7 percent higher than the U.S.

Figure 9. Average Individual Premium for Employer-Based Health Insurance, 2005

	Massachusetts		United States	
Employee Contribution	\$918	22%	\$723	18%
Employer Contribution	\$3,317	78%	\$3,268	82%
Total	\$4,235	100%	\$3,991	100%

Source: Agency for Healthcare Research and Quality, Center for Financing, Access and Cost Trends. 2005 Medical Expenditure Panel Survey-Insurance Component. Tables II.C.1, II.C.2, II.C.3

Figure 10. Average Family Premium for Employer-Based Health Insurance, 2005

	Massachusetts		United States	
Employee Contribution	\$3,040	27%	\$2,585	24%
Employer Contribution	\$8,395	73%	\$8,143	76%
Total	\$11,435	100%	\$10,728	100%

Sources: Agency for Healthcare Research and Quality, Center for Financing, Access and Cost Trends. 2005 Medical Expenditure Panel Survey-Insurance Component. Tables II.D.1, II.D.2, II.D.3

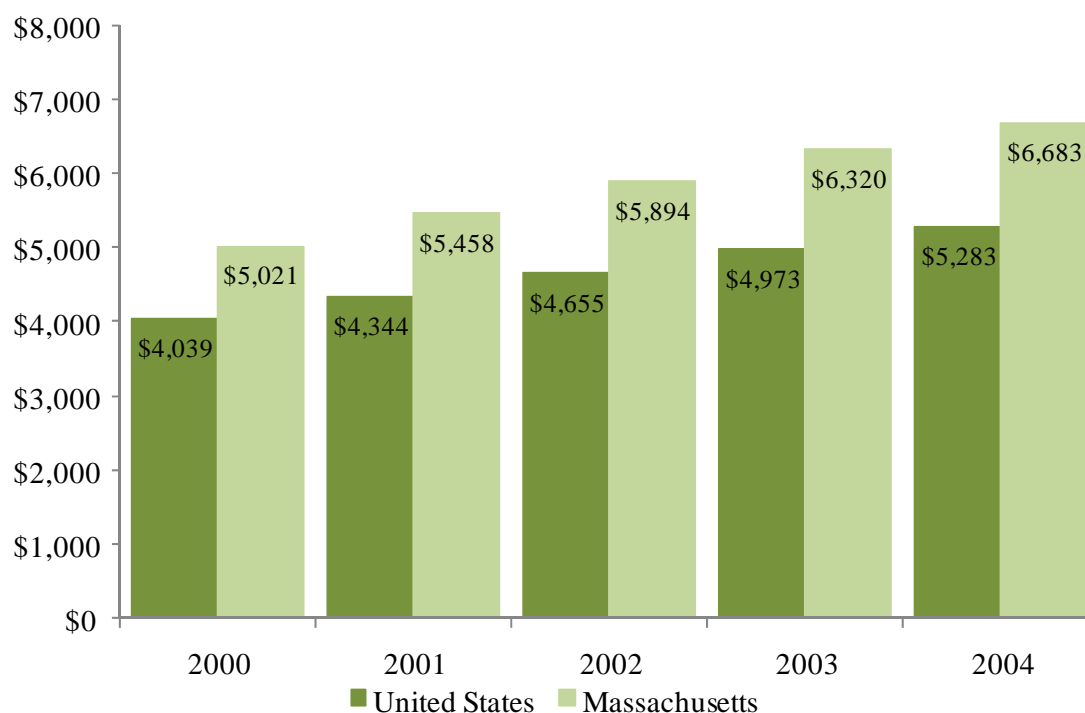
average respectively (Figures 9 & 10). Individuals with a family premium contribute 5 percent more than those with an individual premium towards the overall premium cost. Compared to the U.S., Massachusetts employees contribute more to the cost of their health insurance—4 percent more for individual premiums and 3 percent more for family premiums. In Massachusetts, employees face higher premiums and are responsible for higher contributions than employees are elsewhere.

It is evident that Massachusetts residents are paying more and more for health care via increasing premiums. In order to understand why health insurance premiums are increasing at such a high rate, a detailed analysis of trends in health care expenditures in the U.S. and Massachusetts is necessary. What follows is an analysis of the overall trends in health care expenditures in the U.S. and Massachusetts, along with a breakdown of these expenditures into individual cost categories.

Overview of Personal Health Care Expenditures in the U.S. and Massachusetts

Over the years, Massachusetts has consistently had the highest per capita health care expenditures of any state. Total personal health care expenditures reached \$6,683 per capita in Massachusetts in 2004 (Figure 11). Massachusetts spends 27 percent more than the U.S.

Figure 11. Per Capita Health Care Expenditures, U.S. & Massachusetts (2000-2004)



Source: Centers for Medicare & Medicaid Services (CMS), Office of the Actuary.

national average of \$5,283 per capita, more than any other state and only exceeded by the District of Columbia. The difference in per capita spending between Massachusetts and the U.S. grew from \$982 in 2000 to \$1,400 in 2004, a 43 percent increase over five years. The average annual increase in per capita spending from 2000-2004 was 7.4 percent in Massachusetts, slightly higher than the average national growth rate of 6.9 percent. During the mid 1990s, annual per capita percentage growth declined in Massachusetts and the U.S. as managed care imposed extensive cost controls and cost containment measures (Figure 12). However, with pressure from consumers for choice and from practitioners for greater autonomy, the decline in managed care efforts through the late 1990s and early 2000s coincides with a resumption of accelerated health care expenditures.

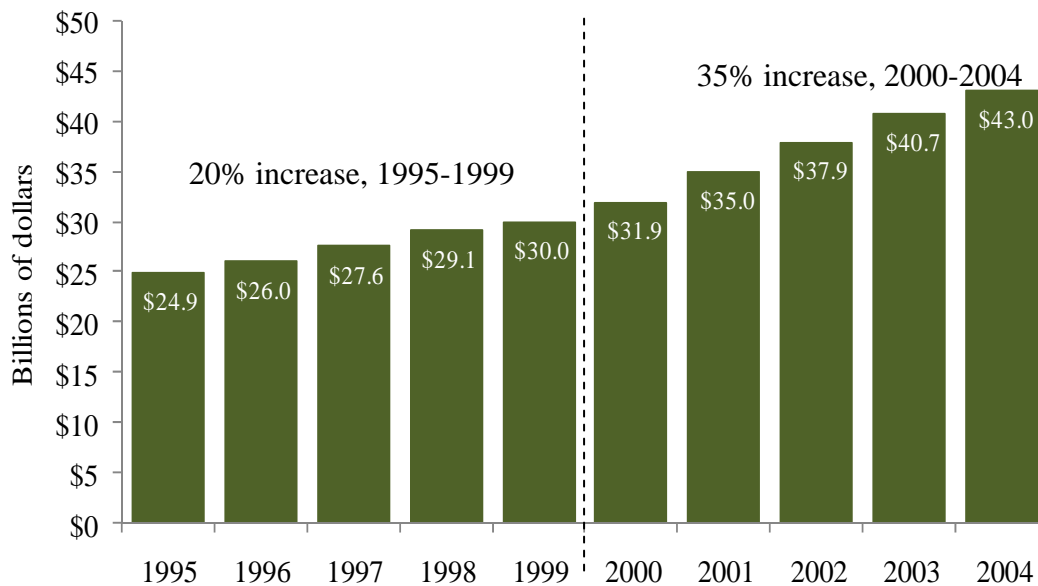
On the whole, personal health care expenditures in Massachusetts are accelerating. In 2004, Massachusetts total health care expenditures reached \$43 billion, an increase of \$11 billion from 2000 (Figure 13). Total health care expenditures grew 20 percent from 1995 to 1999, but growth hastened from 2000 to 2004, increasing total expenditures by 35 percent.

Figure 12. Annual Percent Increase in Health Care Expenditures, 1992-2004



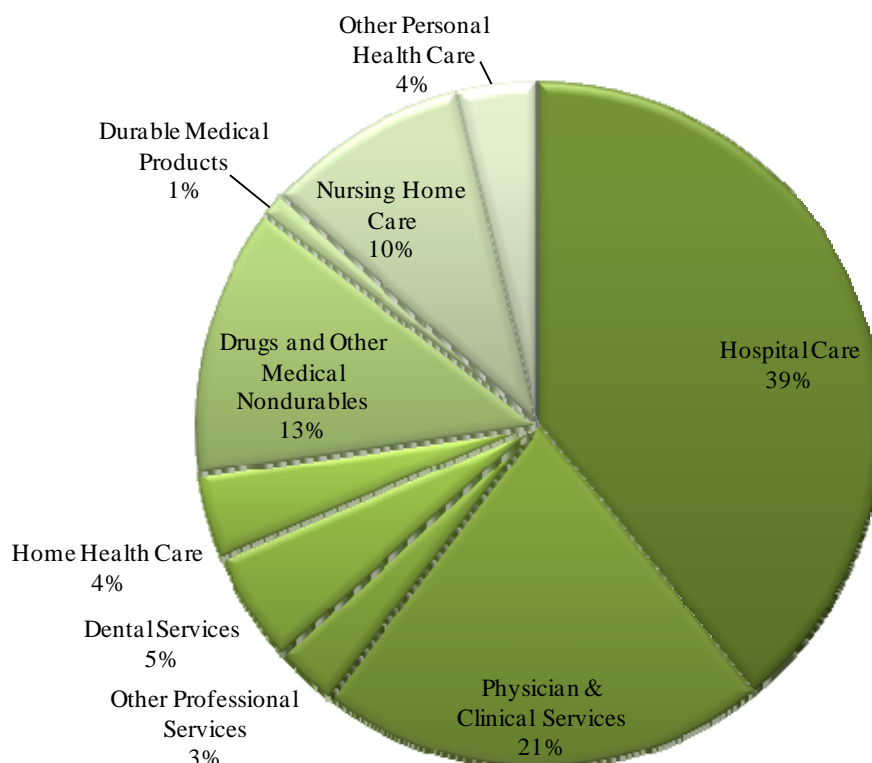
Source: Centers for Medicare & Medicaid Services (CMS), Office of the Actuary.

Figure 13. Personal Health Care Expenditures in Massachusetts



Source: Centers for Medicare & Medicaid Services (CMS), Office of the Actuary

Figure 14. Massachusetts Medical Expenditure Breakdown, 2004

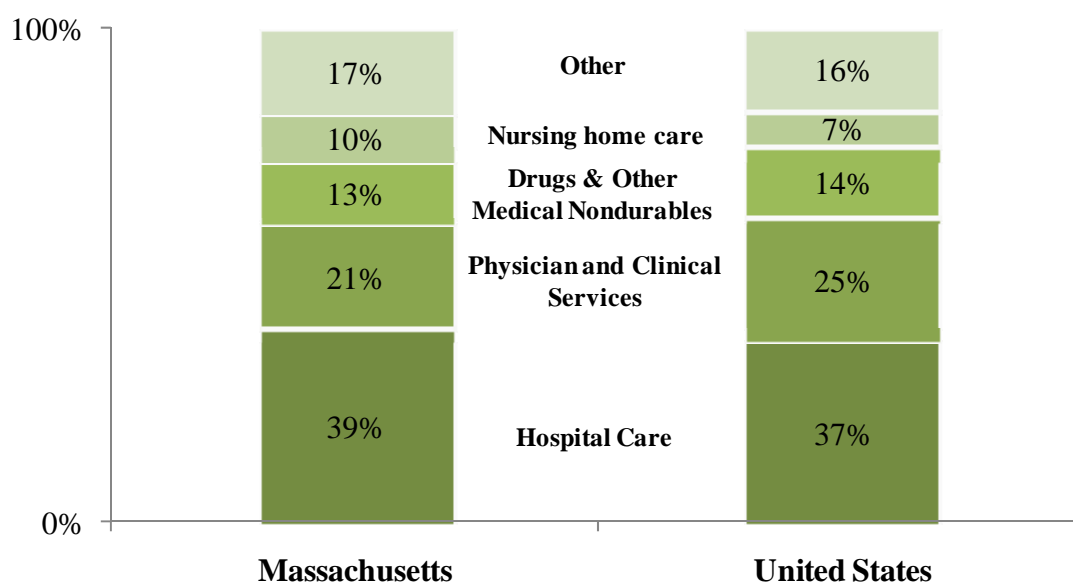


Source: Centers for Medicare and Medicaid (CMS), Office of the Actuary

Cost Drivers of Health Care Expenditures

Figure 14 shows the proportion of health care expenditures in Massachusetts in 2004 by category. The three largest spending components are: hospital care, physician and clinical services, and drugs and other medical nondurables. This mirrors national trends, however Massachusetts hospital care takes up a greater portion of total health care expenditures than the national average, while physician and clinical services along with drugs and other medical nondurables make-up a smaller portion of total costs compared to national levels (Figure 15). Analysis of the growth of the three major cost drivers over recent years reveals a number of interesting findings.

Figure 15. Distribution of Health Care Expenditures, 2004



Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary

Note: "Other" is comprised of dental services, home health care, other personal health care, other professional services, and durable medical products.

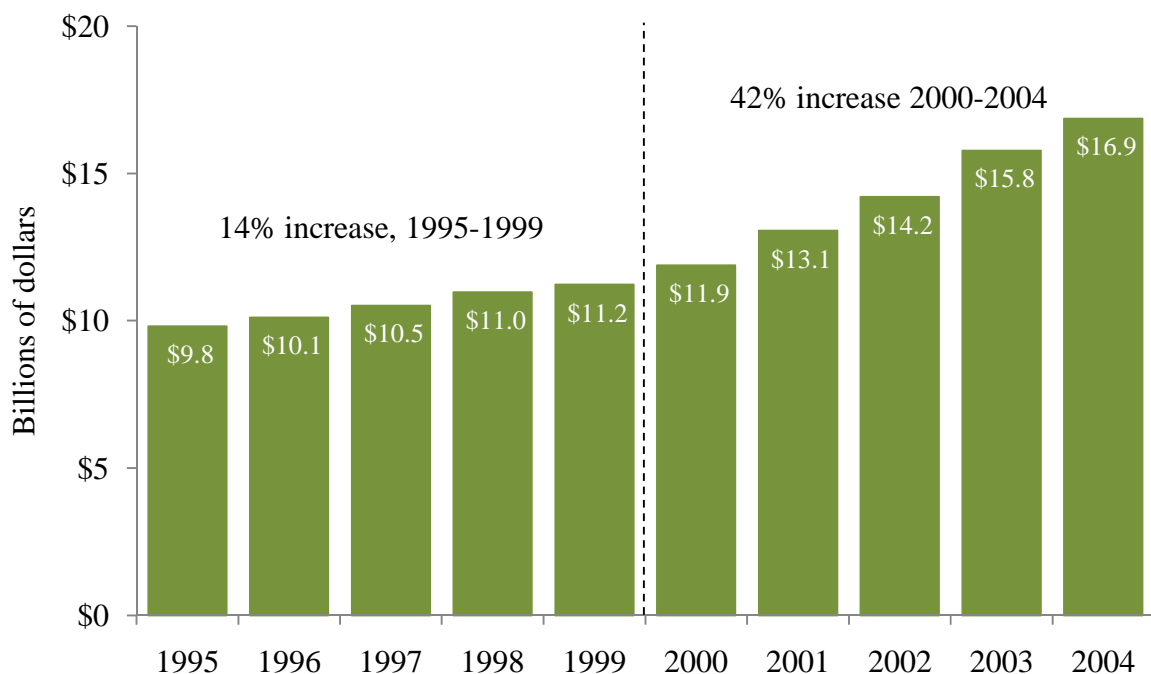
Hospital Care

Hospital care is the major driver of health care expenditures in Massachusetts. From 1995-1999, hospital care expenses grew 14 percent (Figure 16). Hospital care expenditures then grew rapidly from 2000-2004, increasing 42 percent. This rapid increase in hospital expenses has served as the primary driver of health care costs in Massachusetts during this period. A number of factors help to drive hospital care costs. In Massachusetts, part of the growth can be attributed to the type of hospital patients visit for their care. Figure 17 compares the mean charges incurred for an inpatient stay at a teaching hospital versus a nonteaching hospital in Massachusetts from 2000-2005. During this period, the mean charges at teaching and nonteaching hospitals rose at approximately the same rate (49 percent for nonteaching and 48 percent for teaching). However, the cost differential between teaching and nonteaching hospitals is significant. From 2000-2005, the mean charge per patient at teaching hospitals averaged \$9,264 more than nonteaching hospitals. Notably, 2005 saw a marked increase in mean charges at both teaching and nonteaching hospitals with increases of \$3,420 and \$2,777 per discharge respectively. In 2005, the difference between teaching and nonteaching hospital mean charges surged 23 percent from the year prior. A 2006 report by the Massachusetts Division of Health Care Finance and Policy points out that "compared to other Americans, residents of

Massachusetts rely significantly more on teaching hospitals for their care.”⁷ Accordingly, much of the increased costs paid by Massachusetts residents are a direct result of the fact that many more residents are seeking care at teaching hospitals vs. nonteaching hospitals.

The total number of patients discharged annually increased somewhat during this time period as well from 782,108 in 2000 to 827,972 in 2005 (5.9%).⁸ Therefore, much of the hospital cost component increase is attributable to actual cost of inpatient stays and not increased utilization. Specifically, greater utilization of teaching versus nonteaching hospitals by Massachusetts residents appears to be the primary cost driver for hospital costs. The increased costs at teaching hospitals are primarily driven by higher labor costs, increased technology usage, treatment of more severely ill patients, and associated teaching costs for training medical students and resident physicians.

Figure 16. Hospital Care Expenditures in Massachusetts



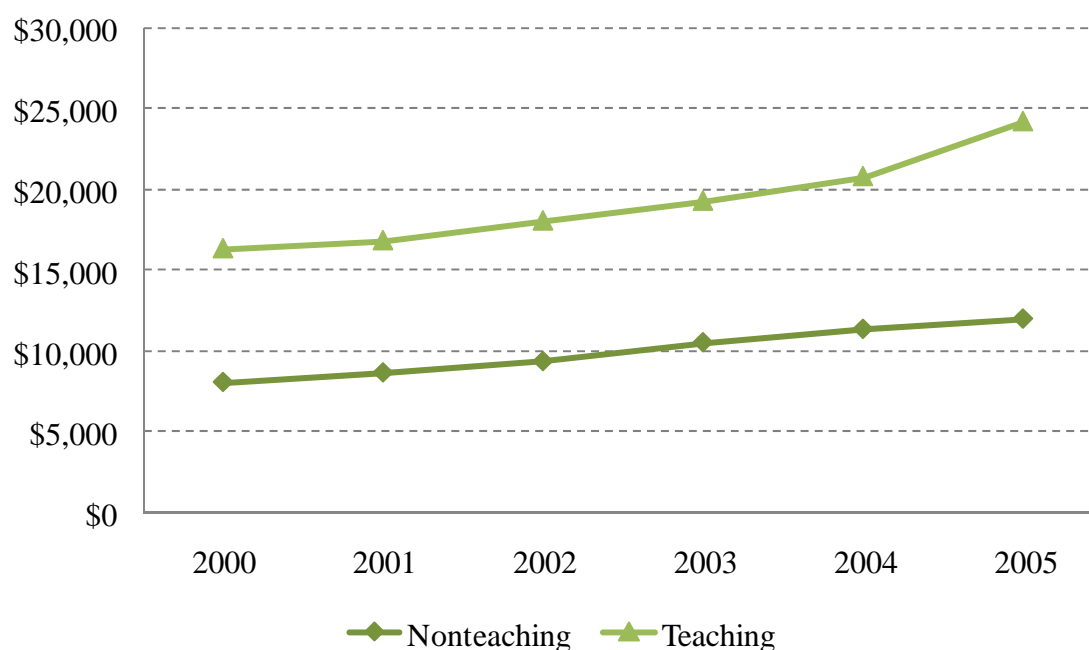
Source: Centers for Medicare and Medicaid (CMS), Office of the Actuary

⁷ “Massachusetts Health Expenditures Accelerating.” Analysis in Brief, November 2006. Massachusetts Division of Health Care Finance and Policy.

⁸ Numbers based upon state statistics from HCUP State Inpatient Database 2000-2005, Agency for Healthcare Research and Quality (AHRQ). Based on data collected by the Massachusetts Division of Health Care Finance and Policy and provided to AHRQ.

The competitive environment in which hospitals operate and compete for patients' business also affects hospital costs. Current market conditions are shifting in a manner that is increasing competition among hospitals to broaden the range of services provided, attract specialty physicians and to offer access to cutting-edge technology, all of which contribute to a rise in costs. Initial results from the Center for Studying Health System Change's (HSC) 2007 visits to 12 nationally representative metropolitan communities, including Boston, show a number of trends. Most notably, there is increasing competition between hospitals and physicians for specialty services as both groups vie for market share. HSC reports that "Across markets, physicians—most notably specialists—are less willing to serve on medical staff committees, provide emergency on-call coverage or carry out other voluntary activities that have typically accompanied their hospital admitting privileges. Hospitals are responding by seeking closer alignment with select physicians, including those in such specialties as cardiology, neurology and orthopedics."⁹ Primarily, hospitals are driven by consumer demand and a limited supply to compete for specialty physicians. This increasingly competitive environment raises concerns about the impact of increased specialty service utilization on cost.

Figure 17. Massachusetts Mean Hospital Charges (Teaching vs. Nonteaching), 2000-2005



Source: State statistics from HCUP State Inpatient Database 2000-2005, Agency for Healthcare Research and Quality (AHRQ). Based on data collected by the Massachusetts Division of Health Care Finance and Policy and provided to AHRQ.

⁹ Draper, D.A. & Ginsburg, P.B. "Health Care Cost and Access Challenges Persist, Initial Findings From HSC's 2007 Site Visits." The Center for Studying Health System Change. Issue Brief No.114, October 2007.

Finally, the impact of hospital care expenses on health care insurance premiums is exacerbated by the practice of cost-shifting. Cost-shifting involves the negotiation of higher reimbursement rates from private insurers to hospitals in order to cover the cost of or subsidize care for uninsured individuals and those insured by Medicare and Medicaid. Often, the reimbursement rates for these public programs do not cover the cost incurred by hospitals for delivery of health care goods and services and providers seek higher reimbursement from private payers to cover their costs.

Physician and Clinical Services

Comprising 21 percent of personal health care expenditures, physician and clinical services are the second largest component of Massachusetts health care spending. Figure 18 shows that physician and clinical services have grown consistently from the mid 1990s onward, increasing 26 percent from 1995-1999 and another 26 percent from 2000-2004. This represents an average annual growth of just over 5 percent, the smallest average annual growth rate of any of the top three drivers of health care costs from 1995-2004. Increases in physician compensation, increased utilization and demand for physician services, rising malpractice premiums, and the increased practice of defensive medicine, all contribute to the growth of this component of health care expenditures.

In particular, rising malpractice premiums and the increased threat of lawsuits have driven physicians to alter their clinical behavior in order to avoid litigation. This increased practice of defensive medicine is well-documented and particularly prevalent among high-risk specialists.¹⁰ A 2005 study of Pennsylvania physicians in six high-risk specialties found that 93 percent had practiced defensive medicine.¹¹ A recent PricewaterhouseCoopers report estimates 10 percent of the costs of medical services to be associated with medical liability and defensive medicine.¹²

The cost of maintaining a practice in Massachusetts is considerably higher than the national average as measured by the Massachusetts Medical Society Physician Practice Environment Index, a statistical indicator of nine factors affecting the delivery of patient care in Massachusetts and the United States. Since 1994, the physician practice environment as measured by the Index has declined

¹⁰ U.S. Congress, Office of Technology Assessment, *Defensive Medicine and Medical Malpractice*, OTA-H--602 (Washington, DC: U.S. Government Printing Office, July 1994).

¹¹ Studdert, D.M., et al. "Defensive Medicine Among High-Risk Specialist Physicians in a Volatile Malpractice Environment." *JAMA*, June 1, 2005; 293: 2609-2617.

¹² "The Factors Fueling Rising Healthcare Costs 2006." PricewaterhouseCoopers, January 2006.

each year. Professional liability costs and the cost of maintaining a physician's practice have dominated the decline in practice environment. From 1994-2006, the average weighted annual rate of increase in the cost of maintaining a practice, including professional liability costs, was 7.5 percent in Massachusetts compared to 5.8 percent in the U.S.¹³ This increase was primarily due to the costs of maintaining a practice, which increased 21 percent more in Massachusetts than the U.S. from 1994 to 2006.

A 2002 report by the Lewin Group, analyzing the drivers of health care costs associated with physician services, identified the following four drivers as most important in contributing to costs associated with physician services: general economic variables and demographics, general price inflation, physician and specialist supply, and technology and treatment patterns. In citing the complexities of the physician service component of total health care costs, the authors note that targeting cost containment measures towards physicians would "ripple" through the entire health care system due to the integral role of physicians in the U.S. health care system.¹⁴

Furthermore, it is interesting to note that given the increased emphasis on preventive care, managing chronic disease, and overall care management, that physician costs have not increased at a greater pace than the other cost drivers of health care. Clearly strategies aimed at constraining physician cost growth have been more successful than those targeting hospital cost growth, as the rise in physician costs has more closely mirrored the overall rise in health care costs.

It is also important to highlight the conspicuous absence of physician compensation on the list of the major drivers of health care costs in the Lewin report. Not only have physician salaries not been a major driver of increasing health care costs and premiums, but according to a June 2006 study by the Center for Studying Health System Change (HSC), since the mid-1990s, physician net income from the practice of medicine has been unable to keep pace with inflation.¹⁵ The HSC, using data from its Community Tracking Study Physician Survey, found that after adjusting for inflation, average physician net income decreased by 7 percent between 1995 and 2003, with the lowest earning physicians, those in primary care, being subjected to the largest reduction in real income (-10.2 percent). Surgical specialists saw a decrease in net income relative to inflation of more than 8 percent

¹³ "The Massachusetts Medical Society Physician Practice Environment Index Report." Massachusetts Medical Society (MMS), March 2007.

¹⁴ "Drivers of Healthcare Costs Associated with Physician Services." The Lewin Group, Inc., January 2002.

¹⁵ Ha T. Tu, Paul B. Ginsburg. "Losing Ground: Physician Income, 1995-2003." Center for Studying Health System Change. Tracking Report #15, June 2006.

over the same time period, while medical specialists' real income remained essentially stable. The study also points out that the decrease in physician net income stands in stark contrast to the inflation adjusted salaries and wages of professional, specialty and technical occupations, which increased by about 7 percent over the same eight year period, according to data from the Bureau of Labor Statistics. The report concluded "flat or declining fees from both public and private payers" was a major cause of the failure of physician incomes to keep pace with inflation. To put the study's findings in context, from 1995 to 2003, physician real incomes decreased 7 percent while spending on personal health care in Massachusetts increased by 63 percent from \$24.9 billion to \$40.7 billion.

Drugs and other medical nondurables

Contributing \$5.5 billion to 2004 personal health care expenditures, drugs and other medical nondurables represent the third largest component of health care spending in Massachusetts. Essentially, the rise in drug expenditures is reflective of a combination of drug utilization, manufacturer price inflation and changes in drug mix (older, cheaper drugs vs. newer, pricier drugs). Nationally, the number of retail prescriptions filled on a per capita basis jumped from 7.9 in 1994 to 12.4 in 2006.¹ The Kaiser Family Foundation's report "Trends and Indicators in the Changing Health Care Marketplace" indicates that 42 percent, nearly half, of the increase in drug expenditures between 1997-2002 was due to increased utilization, with changes in drug mix contributing 34 percent and price inflation an additional 25 percent.² Notably, manufacturer price increases contributed 6 percent more to overall cost growth between 1997-2002 than the previous period from 1993-1997.³

The FDA's approval of direct-to-consumer marketing in 1997 and the subsequent surge in pharmaceutical company spending on advertising has greatly contributed to rising drug expenditures. In a recent review, Gellad and Lyles report that from 1996-2000, there was a 400 percent increase in direct-to-consumer advertising by pharmaceutical companies, with total spending topping \$4 billion in

¹ Kaiser Family Foundation, *Prescription Drug Trends*, May 2007. http://www.kff.org/rxdrugs/upload/3057_06.pdf

² "Trends and Indicators in the Changing Health Care Marketplace," Kaiser Family Foundation. <http://www.kff.org/insurance/7031/ti2004-1-17.cfm>

³ "Trends and Indicators in the Changing Health Care Marketplace," Kaiser Family Foundation. <http://www.kff.org/insurance/7031/ti2004-1-17.cfm>

2004.⁴ Furthermore, they explain that direct-to-consumer marketing “stimulates patient demand for pharmaceuticals and may influence physician prescribing habits,” both of which contribute to drug expenses. According to recent testimony from Dr. Mollyann Brodie before the U.S. House of Representatives, “prescription drug ads are doing what they are designed to do – prompting people to talk to their doctor about a specific drug they saw advertised.”⁵ However, the overall impact, including cost, of this “advertising induced demand,” whether it be beneficial in driving patients to seek treatment for existing conditions or harmful in persuading patients to pursue unnecessary treatments, remains elusive.

While this component of health care expenditures continues to grow at a high rate in Massachusetts, increasing by 49 percent from 2000-2004, the rate of growth has slowed from the previous period (1995-1999) in which it grew by 57 percent (Figure 19). Slowed growth of prescription drug costs are likely responsible for the constrained growth in recent years due primarily to fewer new blockbuster drugs, blockbuster drugs going off patent, increased generic usage, and decreasing consumer demand due to a shift to multi-tiered formularies by health plans.⁶ The implementation of cost sharing in the form of tiered co-payments for prescription drugs and a shift to generic brand alternatives has been somewhat effective in driving consumer cost consciousness, as reflected by the slowing in the overall rate of growth of prescription drug spending.

Furthermore, while the overall trend in expenditures will be largely unaffected, the Medicare Part D prescription drug benefit will impact payers dramatically by shifting some of the cost of prescription drugs from private insurers and individual out-of-pocket payment to Medicare.⁷ Any cost savings achieved by the program will likely be offset by increased utilization as more and more seniors receive coverage. In their 2006 paper, Poisal, et al. show that prescription drug spending by payer shifted dramatically from 2005 to 2006, with the share paid by private insurance decreasing from 47 percent to 42 percent and the portion of out-of-pocket expenditures dropping from 25 percent to 19 percent. These reductions, along with a reduction in Medicaid spending from 19 percent to 11

⁴ Gellad, Z.F. & Lyles, K.W. Direct-to-Consumer Advertising of Pharmaceuticals. *The American Journal of Medicine*. 2007; 120: 475-480.

⁵ Brodie, Mollyann. “Public Views of Direct-to-Consumer Prescription Drug Advertising.” Testimony before the U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Oversight and Investigations, delivered May 8, 2008. <http://www.kff.org/kaiserpolls/upload/7774.pdf>

⁶ “The Factors Fueling Rising Healthcare Costs 2006.” PricewaterhouseCoopers, January 2006.

⁷ Poisal, J.A., et al. “Health Spending Projections Through 2016: Modest Changes Obscure Part D’s Impact.” *Health Affairs* 26, no. 2 (2007): w242-w253.

percent during the same period—attributable to individuals with dual eligibility receiving coverage under Part D—are reflected in the increase in the portion of prescription drug spending by Medicare from 2 percent in 2005 to 22 percent in 2006.⁸

The value of bringing new drugs to market is reflected by improved patient care and better disease management. Yet, drug development is an expensive proposition with billions of dollars spent by pharmaceutical companies on research and development. It is hard to quantify the impact of so called breakthrough classes of drugs (e.g. selective serotonin reuptake inhibitors or proton pump inhibitors); while they offer novel treatments, they inevitably cost more than drugs in older classes. In their economic analysis of the cost impact of new drugs and the relationship to overall health expenditures, Karaca and Wiggins found that while newer drugs do indeed cost more than older drugs, most “important drugs significantly decrease total non-drug expenditures for [most] breakthrough classes.”⁹ Thus, while the increased cost of new drugs is real, the cost reducing impact of such drugs on overall health care expenditures must be taken into account as well.

While overall spending on prescription drugs is relatively unaffected, the shift in costs away from private health insurance likely contributed to the observed recent trend in slowing healthcare premium increases. Despite this downward trend in growth of prescription drug spending due to the aforementioned measures, the continued high growth rate of this cost driver of health care deserves further scrutiny and analysis.

Administrative Costs

Nancy Turnbull, of Harvard’s School of Public Health, recently analyzed the financial filings made to the Massachusetts Division of Insurance (DOI) for the state’s three largest private health insurers: Blue Cross/Blue Shield of Massachusetts, Harvard Pilgrim and Tufts Health Plan. Turnbull determined that for fully insured plans, per member annual spending on medical expenses rose 33 percent from \$2,585 in 2003 to \$3,429 in 2006, while average spending on administrative expenses per member per year increased 47 percent from \$330 to \$486 over the same time period.¹⁰

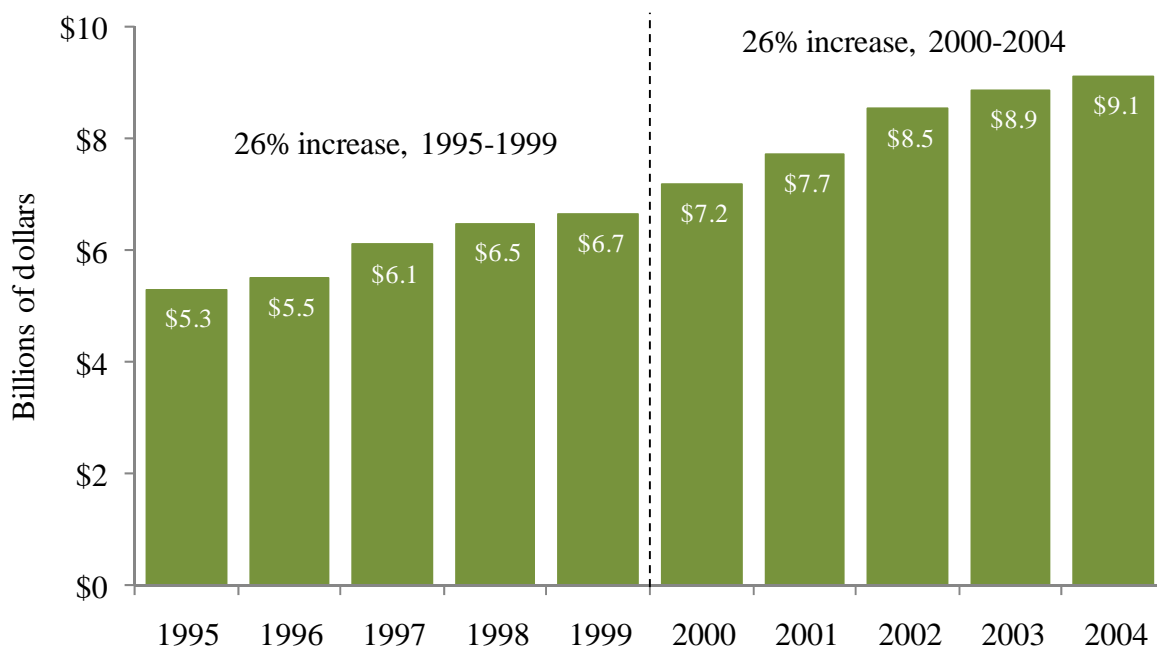
⁸ Poisal, J.A., et al. “Health Spending Projections Through 2016: Modest Changes Obscure Part D’s Impact.” *Health Affairs* 26, no. 2 (2007): w242-w253.

⁹ Karaca, Zeynal and Wiggins, Steven N., “The Impacts of Breakthrough Drug Classes on Total Health Expenditures” (November 11, 2006). Available at SSRN: <http://ssrn.com/abstract=947603>

¹⁰ Turnbull, N. “The Cost Containment Dividend: What would you have done with an extra \$392—or \$727— last year?” Web Blog, posted December 31, 2007. Available at: <http://www.wbur.org/weblogs/commonhealth/?p=320>

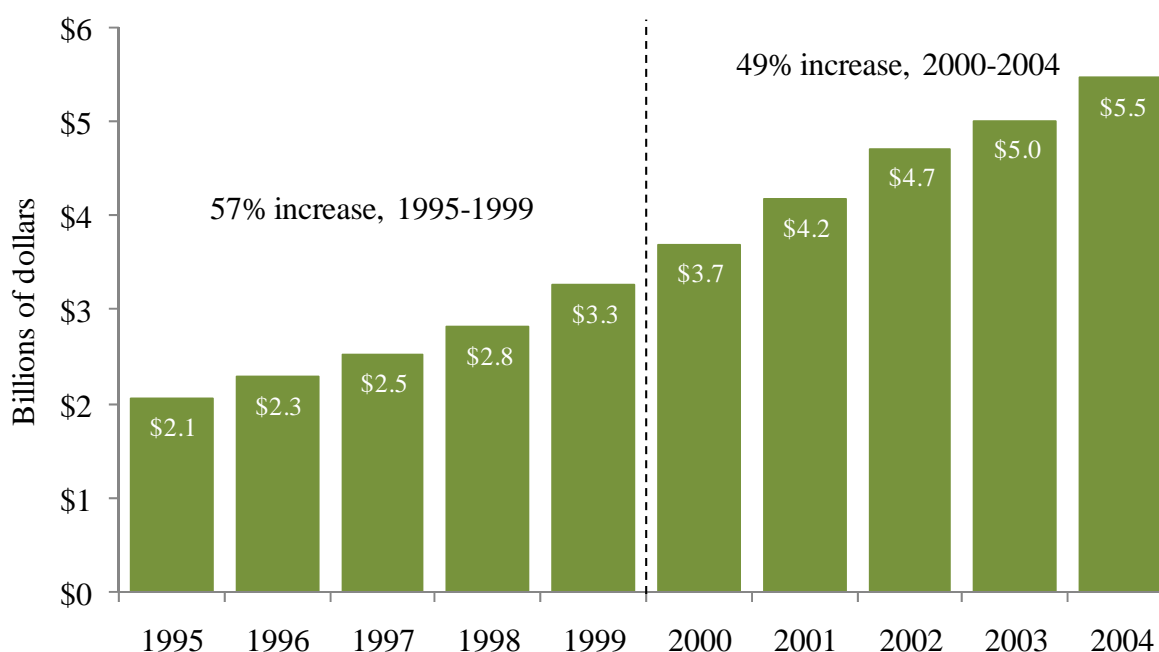
Turnbull's analysis also noted that while there was little rate fluctuation across the three plans for medical expenses, the plans experienced widely differing increases in administrative expenses. The relative uniformity in medical expense growth is likely a reflection of that portion of health care premiums being driven by the actual increases in personal health care expenditures. While there may be some non-demand related increases in the hospital care portion of medical expenses due to the phenomenon of cost-shifting, this is frequently mitigated

Figure 18. Physician and Clinical Services Expenditures in Massachusetts



Source: Centers for Medicare and Medicaid (CMS), Office of the Actuary

Figure 19. Drugs and Other Medical Nondurables Expenditures in Massachusetts



Source: Centers for Medicare and Medicaid, Office of the Actuary

by the fact that private insurance reimbursement rates for physician services generally follow the levels set by Medicaid and Medicare.¹¹ On the other hand, the variation in growth rates of per member annual administrative expenses illustrates that some insurance companies may have had more success controlling this premium cost component.

Administrative costs vary among health insurers partly as a result of how various health insurance plans spend their dollars. Growth in administrative costs are due to a number of factors including increases in carriers' use of disease and care management programs, member information services (such as websites dedicated to health education and self-management), and "network management," which consists of negotiations and communications with hospitals, physicians and other health providers under contract with health insurance plans.¹² While some of these components of administrative costs are arguably value-added in the sense that they promote individual health and preventative measures, the high rate of increase in per member per year in administrative expenses

¹¹ Poisal, J.A., et al. "Health Spending Projections Through 2016: Modest Changes Obscure Part D's Impact." *Health Affairs* 26, no. 2 (2007): w242-w253.

¹² Lemieux, J. "Perspective: Administrative Costs of Private Health Insurance Plans." Center for Policy and Research, America's Health Insurance Plans, 2005.

reported recently is an issue that should be examined more carefully. Also, further analysis of the variability among carriers is warranted.

Insurance Cycle

The concept of the “insurance cycle”, also known as the underwriting cycle, is discussed in the 2003 National Institute of Health Policy report, “Understanding Health Care Cost Drivers.”

According to the report, the insurance cycle is a planned pricing cycle in which health insurance companies under-price the premiums offered to customers relative to the actual cost of health care in order to gain market share or prevent new entrants (in the case of established companies). Once the desired market share is established, premiums are increased to reflect true health care costs and to offset losses that may have been incurred during the trough period of under-pricing.

These phases are also described in the “Health Spending Projections Through 2016” paper as being highly cyclical and contributing to the annual variations in net costs of private health insurance. At the national level, the insurance cycle is reported to have been responsible for 14.1 percent of health insurance premiums in 2005.

Conclusion and Recommendations

The analysis presented here was designed to identify the factors driving rising health care costs and health insurance premiums in Massachusetts. The information presented also provides an overview of where health care premium dollars are spent by the state’s major insurers. While a comprehensive determination of how every premium dollar is spent is not currently possible due to the lack of a mandated, comprehensive data reporting system, a clear picture of the rising cost of health care in Massachusetts is presented in this report.

By all measures, Massachusetts residents pay higher health care premiums and contribute more to their premium than the average U.S. citizen. In the four year period from 2001-2005, family and individual premiums in Massachusetts grew by nearly 50 percent each. Such a high rate of growth is unsustainable in the long run for employees who are already paying a greater portion of their wages for health care each year as premium growth continues to outpace growth in wages. While the majority of premium dollars are spent on medical costs, the rate of growth in administrative costs has exceeded the growth of medical costs in recent years for Massachusetts’ three largest health carriers. However, the primary growth in premiums is due to the effects of increased health care expenditures.

Per capita health care spending in Massachusetts is the highest of any state. The high cost of health care in Massachusetts is driven, primarily, by: hospital care, physician and clinical services, and drugs and other medical nondurables. The acceleration of hospital care expenditures in recent years is a principal culprit behind the rising costs. The recent surge in hospital care expenditures reflects increased marketplace competition among hospitals, variation in expenses based upon hospital type—teaching versus nonteaching—and increased specialization of services and technology. Teaching hospitals are a particular determinant of costs in Massachusetts because of the high density of these hospitals in certain areas of the state. Of the primary drivers of health care costs in Massachusetts, physician and clinical services appear to be the most contained in their annual growth rate. While physician and clinical services have increased at a rate greater than inflation in recent years, their rate of growth has been well below that of overall health care expenditures, hospital care expenditures, drugs and other nondurables, and health care premiums. Lastly, while the annual growth rate for drugs and other medical nondurables has slowed over recent years, the average annual rate of increase for this cost component remains the highest of the top three health care cost categories reported here. The effects of direct-to-consumer marketing as well as consumer behavior are certainly embodied by the high rate of growth in this sector.

Beyond the numbers, this report makes clear the need for a central data collection agency in Massachusetts, with the responsibility of collecting and tracking health care expenditures and premiums. It is well understood and documented that health care costs are rising; and understandably premiums have followed suit. However, advocacy for the uniform reporting of data from insurers, hospitals and providers is necessary to achieve a complete understanding of the financial status of the health care marketplace in Massachusetts. A recommendation is for the formation of a central repository for the collection and reporting of health care financial data. As a central clearinghouse for insurer, hospital and provider data, such an agency could more readily track annual growth rates and compare trends across market segments. The formation of uniform reporting measures and classification categories would help to clarify the variation seen in this report due to differences in accounting and reporting policies across organizations. The dissemination of these data to the public would serve to benefit consumers, providers, insurers and policymakers alike. The transparency of this system would almost certainly actuate the formation of cost containment measures as well as increased cooperation amongst all parties involved in the health care system in Massachusetts.