

Preliminary findings

2013 Cost Trends Report

What is the role of the Health Policy Commission?

Chapter 224 sets the ambitious goal of bringing health care spending growth in line with growth in the state's overall economy. The Commission is working to advance this goal by:

- Fostering reforms to the health care payment system that aim to reward quality care, improve health outcomes, and more efficiently spend health care dollars
- Promoting innovative delivery models that will enhance care coordination, advance integration of behavioral and physical health services, and encourage effective patient-centered care
- Investing in community hospitals and other providers to support the transition to new payment methods and care delivery models
- Increasing the transparency of provider organizations and assessing the impact of health care market changes on the cost, quality, and access of health care services in Massachusetts
- Analyzing and reporting of cost trend through data examination and an annual public hearing process to provide accountability of the health care cost-containment goals set forth by Chapter 224
- Evaluating the prevalence and performance of initiatives aimed at health system transformation
- Engaging consumers and businesses on health care cost and quality initiatives
- Partnering with a wide range of stakeholders to promote informed dialogue, recommend evidence-based policies, and identify collaborative solutions

Goals for our annual report


The Commission releases an annual cost trends report, intended to provide:

- A profile of the Massachusetts health care delivery system
- An evidence-based discussion of trends in Massachusetts health care costs, leveraging new data sets such as the All-Payer Claims Database
- Analysis of drivers of growth, including factors leading the state's growth to be above or below the benchmark set by Chapter 224
- A fact base to inform the other activities of the Commission, as well as the broader policy discussion in Massachusetts
- Deep dives into specific cost drivers in Massachusetts, including:
 - Topics of known importance that can be addressed with new or state-specific data
 - Topics that have been insufficiently studied or evaluated
 - Topics where a comprehensive discussion integrating evidence from multiple sources can better inform policy dialogue

This year's annual report does not measure cost growth against the benchmark established in Chapter 224. The benchmark will be reviewed beginning in 2014.

Topics in the 2013 cost trends report

Profile of Massachusetts



Levels of spending



Trends in spending



The MA delivery system



Quality and access

2013 cost trends report


Deep-dives



Hospital operating expenses

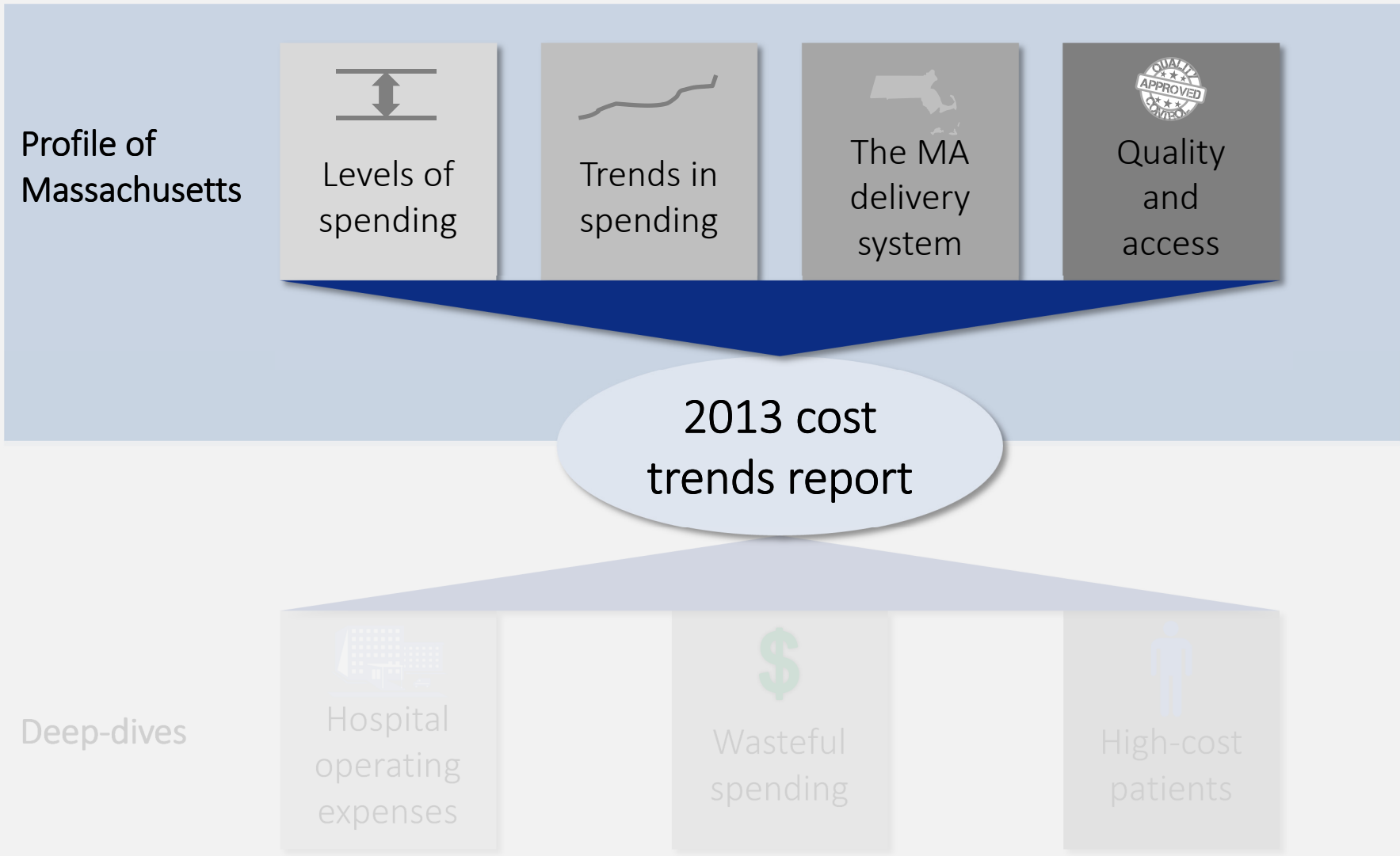


Wasteful spending



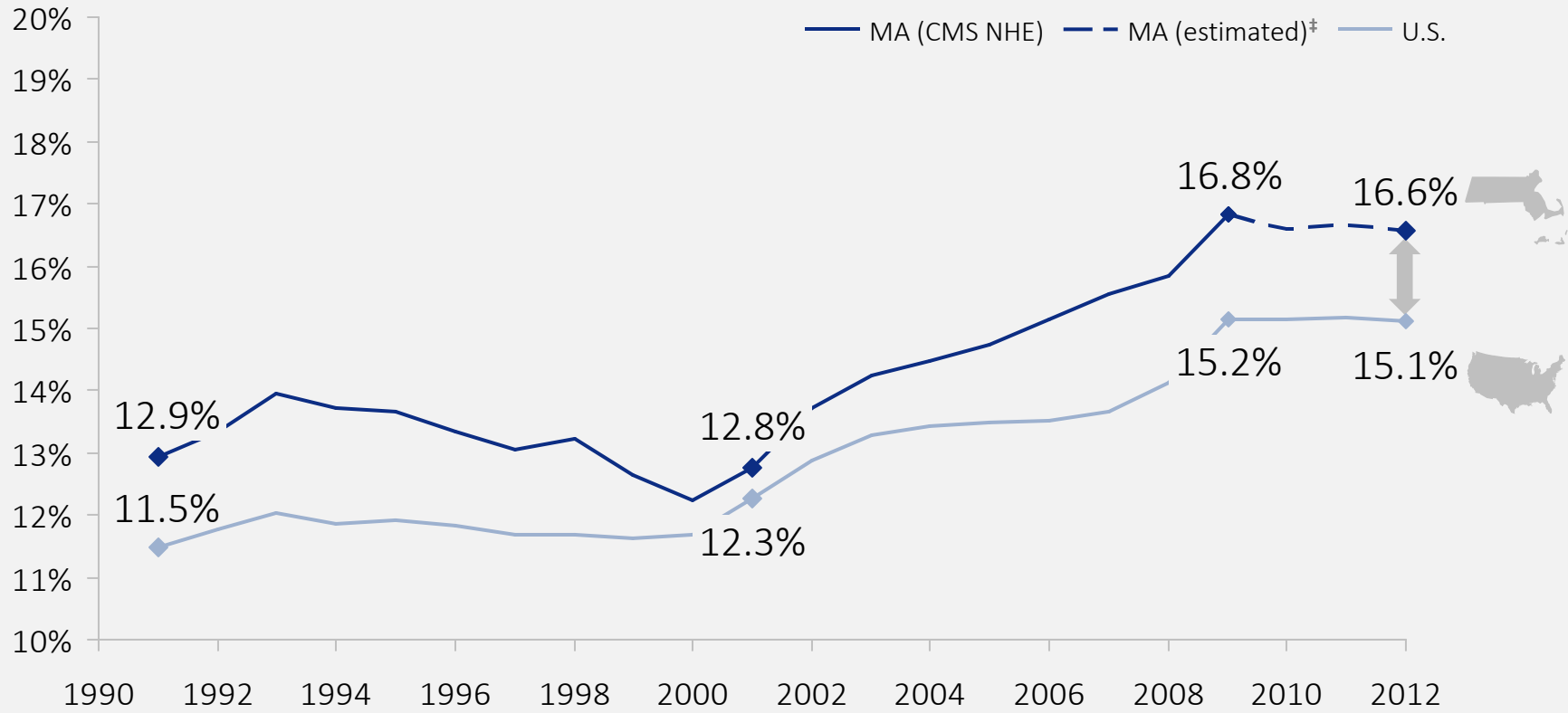
High-cost patients

Topics in the 2013 cost trends report



Health care spending as a proportion of the Massachusetts economy rose over the last decade, but declined from 2009-2012

Personal health care expenditures* relative to size of economy
Percent of respective economy†



* Personal health care expenditures (PHC) are a subset of national health expenditures. PHC excludes administration and the net cost of private insurance, public health activity, and investment in research, structures and equipment.
 † Measured as gross domestic product (GDP) for the U.S. and gross state product (GSP) for Massachusetts
 ‡ CMS state-level personal health care expenditure data have only been published through 2009. 2010-2012 MA figures were estimated based on 2009-2012 expenditure data provided by CMS for Medicare, ANF budget information statements and expenditure data from MassHealth, and CHIA TME reports for commercial payers.
 Source: Centers for Medicare and Medicaid Services; Bureau of Economic Analysis; Center for Health Information and Analysis; MassHealth; Census Bureau; HPC analysis

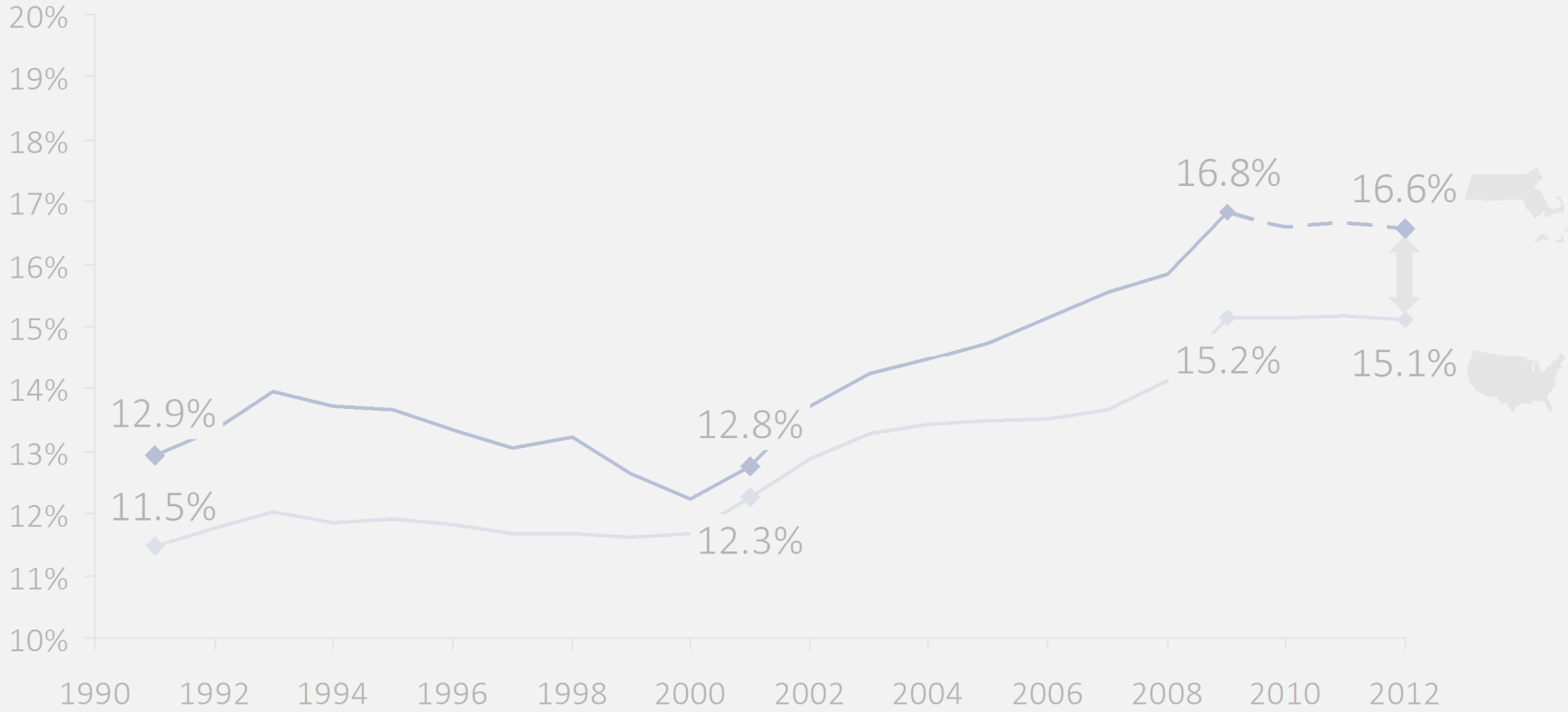
Profile of Massachusetts' health care spending

1

Levels of spending: what explains the difference in Massachusetts spending relative to the U.S. average?

2

Trends in spending: what contributed to the growth in Massachusetts health care spending over the past two decades?



3

The Massachusetts delivery system: how do characteristics of the state's delivery system contribute to spending levels and trends?

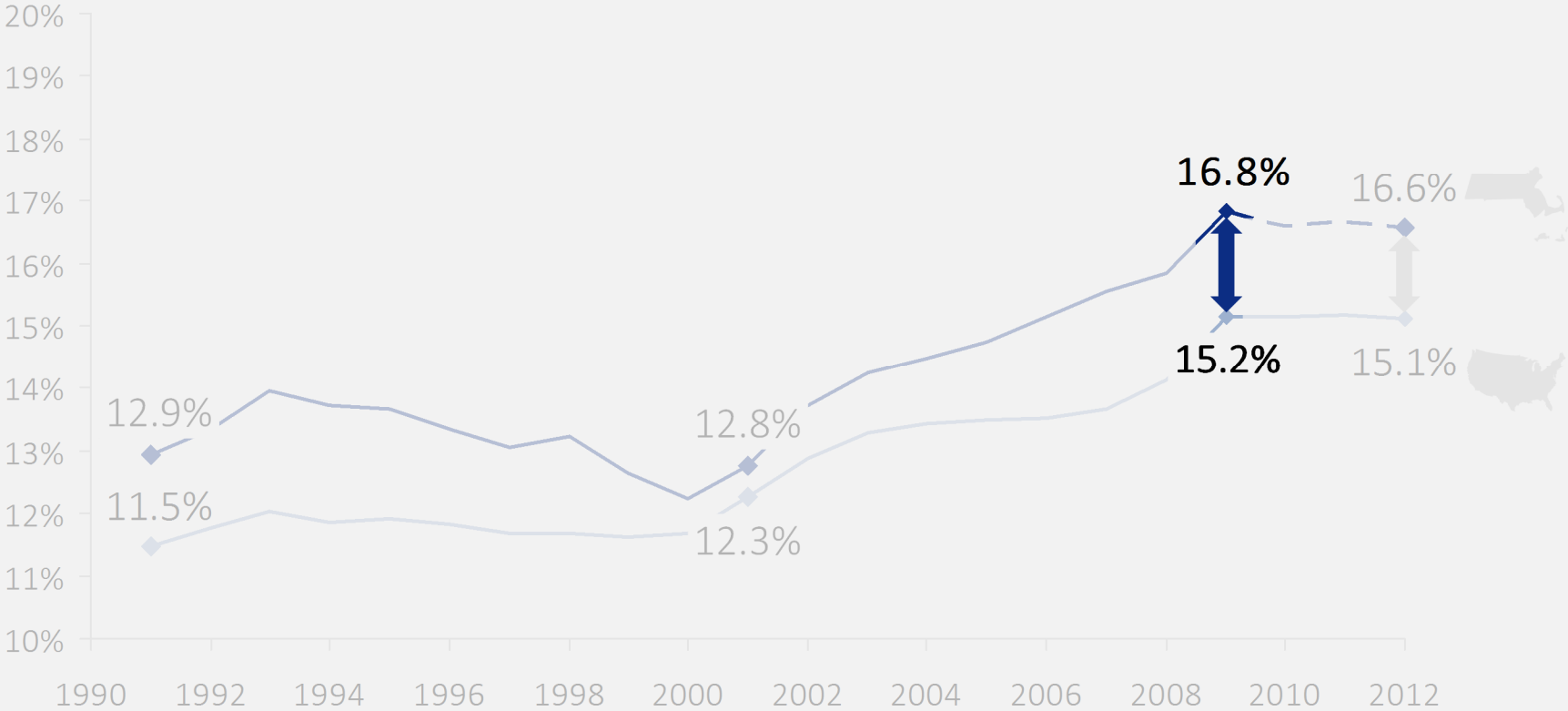
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Quality and access: how does Massachusetts perform compared to the U.S. on measures of quality and access?

Profile of Massachusetts' health care spending

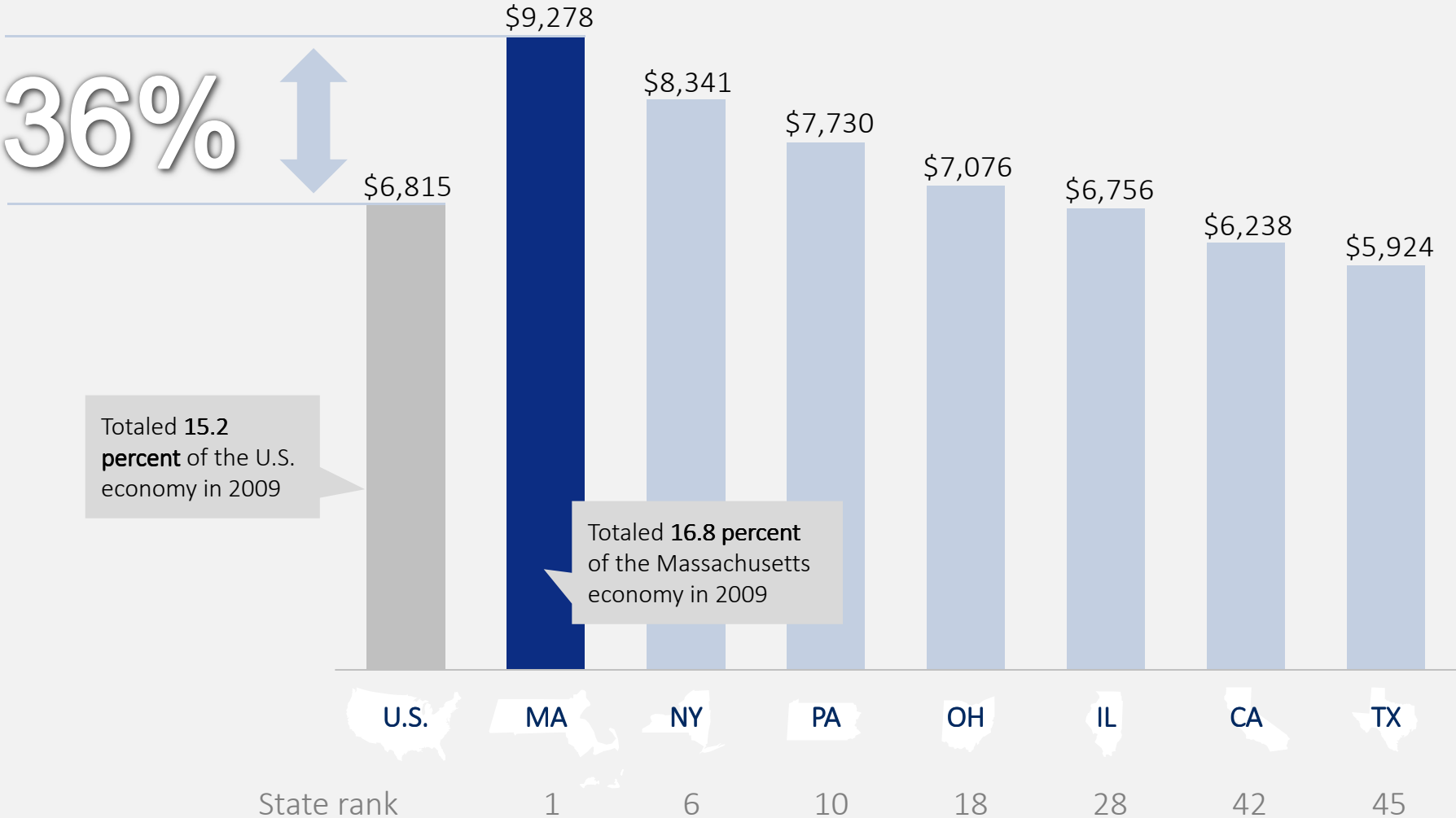
1

Levels of spending: what explains the difference in Massachusetts spending relative to the U.S. average?



Per capita health care spending in Massachusetts is the highest of any state

Per capita personal health care expenditures*
Per capita dollars, 2009

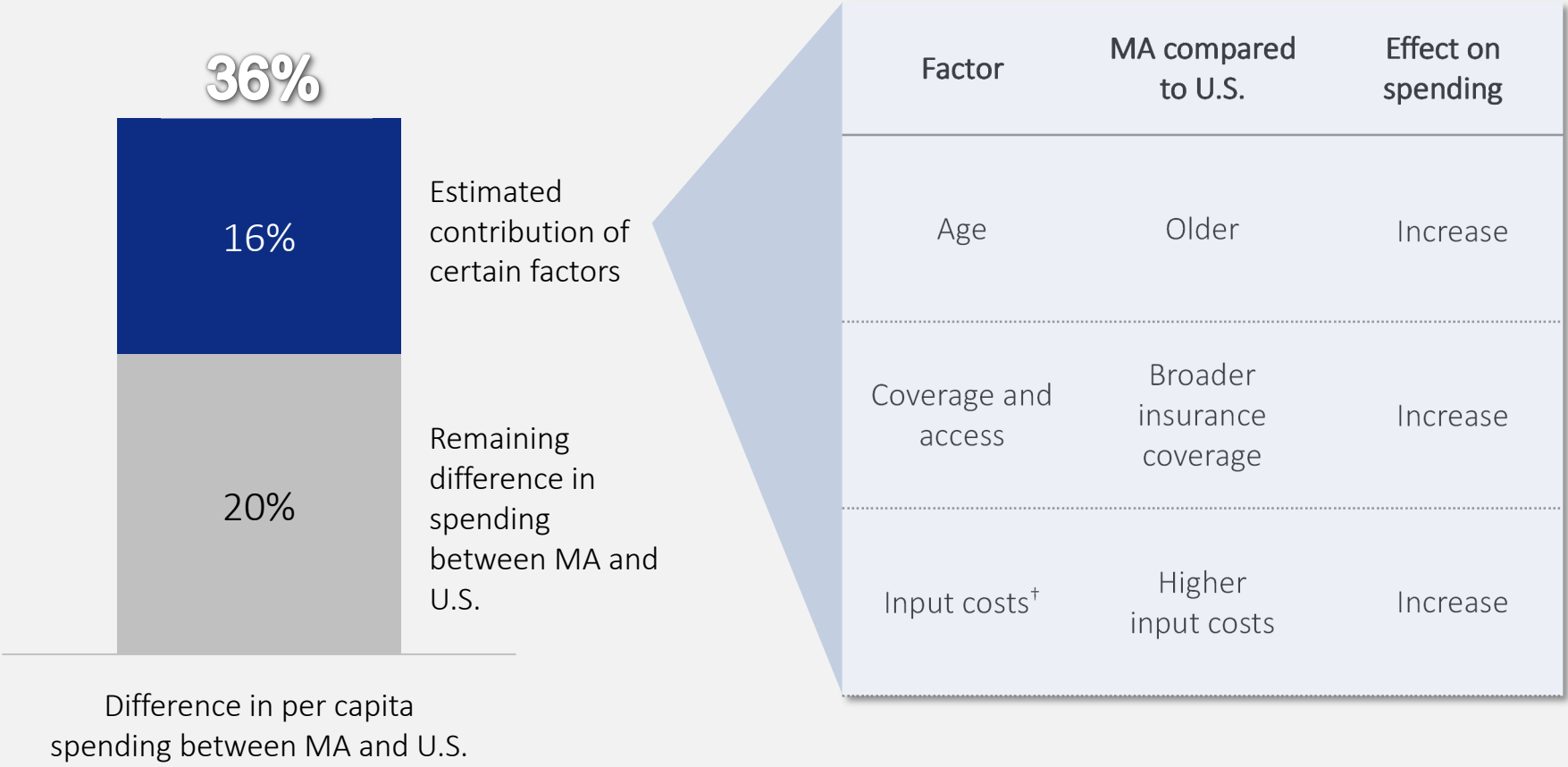


* Personal health care expenditures (PHC) are a subset of national health expenditures. PHC excludes administration and the net cost of private insurance, public health activity, and investment in research, structures and equipment.

Source: Centers for Medicare and Medicaid Services; Bureau of Economic Analysis; HPC analysis

Spending differs significantly between Massachusetts and the U.S., even after adjusting for certain factors

Difference in per capita personal health care expenditures between Massachusetts and the U.S.*
Percent of U.S. per capita personal health care spending, 2009 dollars



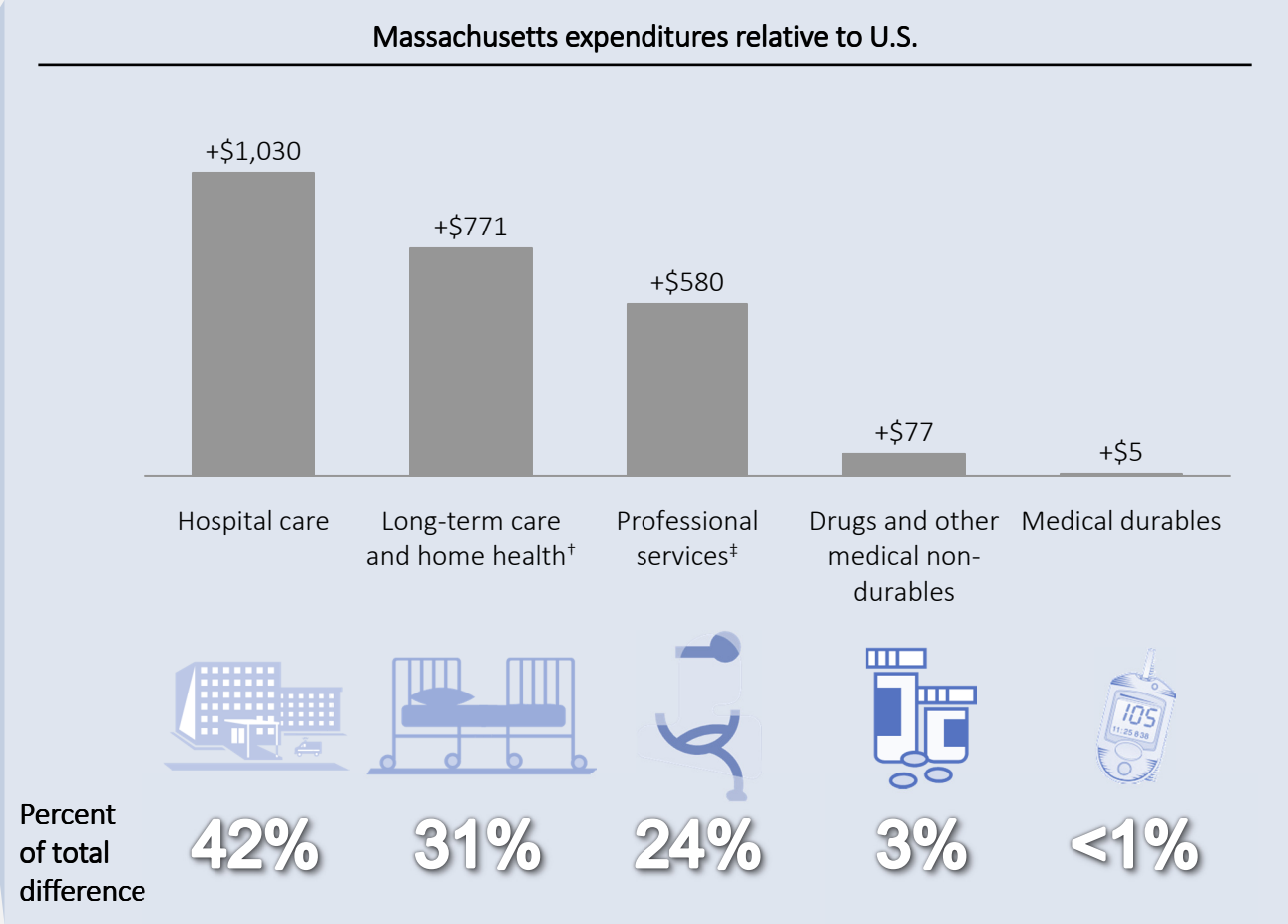
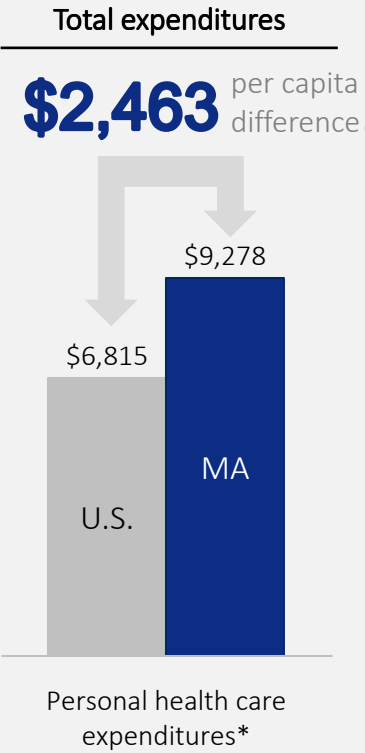
* Personal health care expenditures (PHC) are a subset of national health expenditures. PHC excludes administration and the net cost of private insurance, public health activity, and investment in research, structures and equipment.

† Based on the Medicare Geographic Adjustment Factor (GAF), which adjusts for wages, office rents, supplies, and medical malpractice insurance premiums.

Source: Centers for Medicare and Medicaid Services; Medical Expenditure Panel Survey; Census Bureau; Smith S, Newhouse JP, Freeland MS. *Health Affairs*. 2009; Hadley J, Holahan J. *Health Affairs*. 2003; HPC analysis

Overall: Massachusetts spends more than the U.S. average across all categories, but especially in hospital care and long-term care

Per capita personal health care expenditures*
Dollars, 2009



* Personal health care expenditures (PHC) are a subset of national health expenditures. PHC excludes administration and the net cost of private insurance, public health activity, and investment in research, structures and equipment.

† Includes nursing home care, home health care, and other health, residential, and professional care

‡ Includes physician and clinical services, dental services, and other professional services

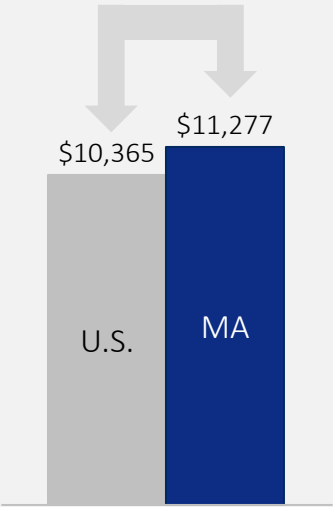
Source: Centers for Medicare and Medicaid Services; HPC analysis

Medicare: all Massachusetts spending above the U.S. average is in hospital care and long-term care

Per beneficiary personal health care expenditures*
Dollars, 2009

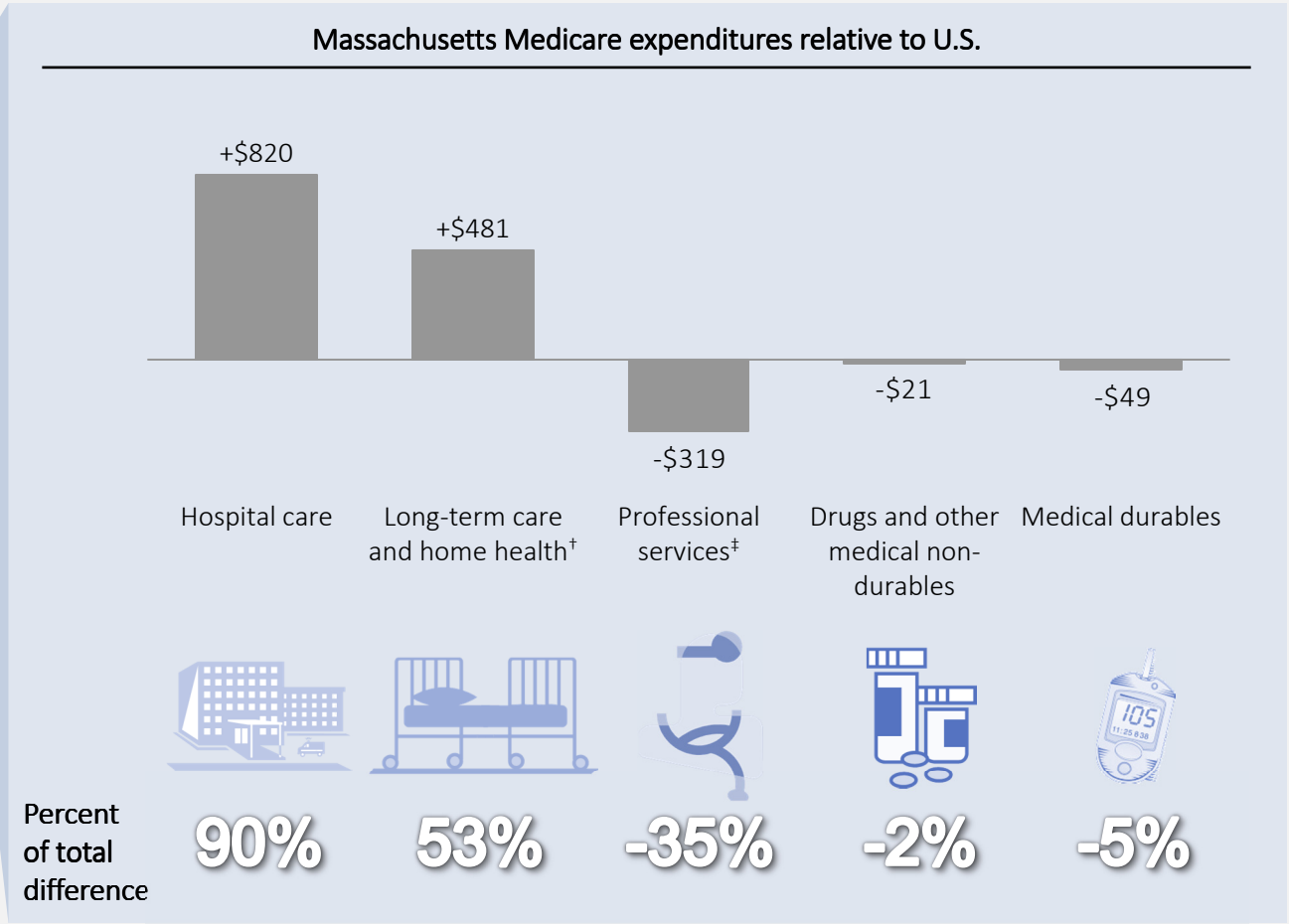
Medicare expenditures

\$912 per beneficiary difference



Personal health care expenditures*

Massachusetts Medicare expenditures relative to U.S.



* Personal health care expenditures (PHC) are a subset of national health expenditures. PHC excludes administration and the net cost of private insurance, public health activity, and investment in research, structures and equipment.

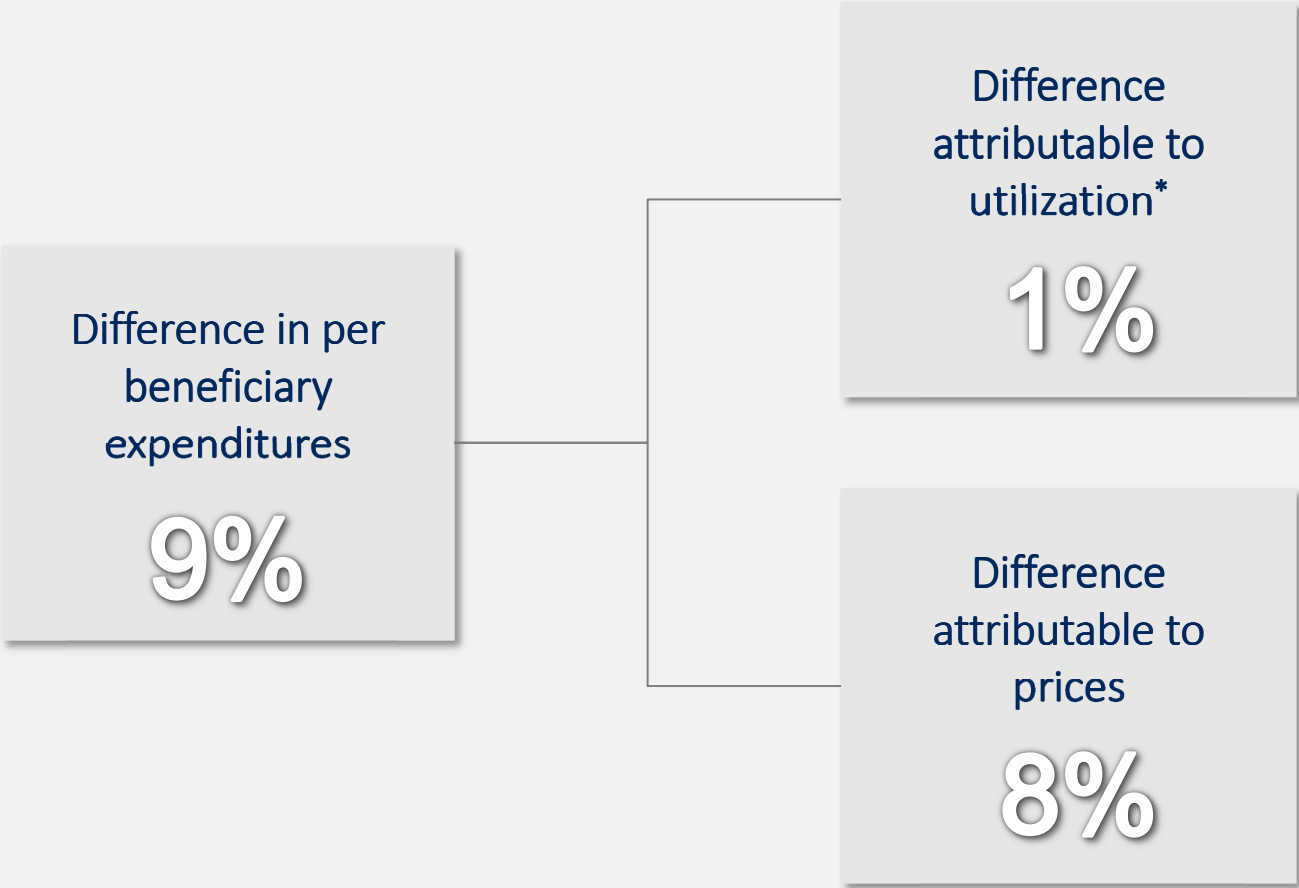
† Includes nursing home care, home health care, and other health, residential, and professional care

‡ Includes physician and clinical services, dental services, and other professional services

Source: Centers for Medicare and Medicaid Services; HPC analysis

Medicare: for Medicare beneficiaries, the difference in spending is driven mostly by price adjustments for teaching and wages

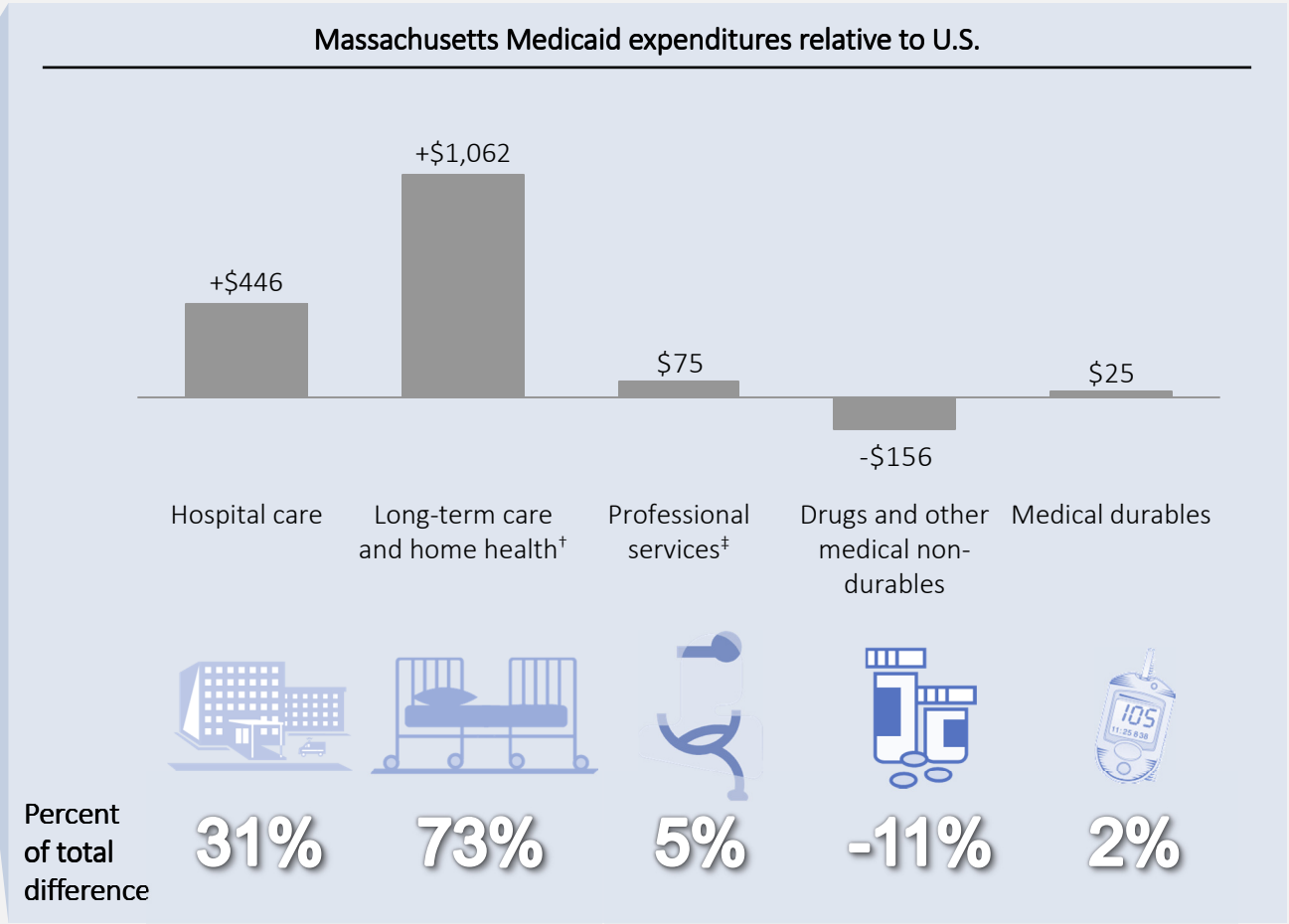
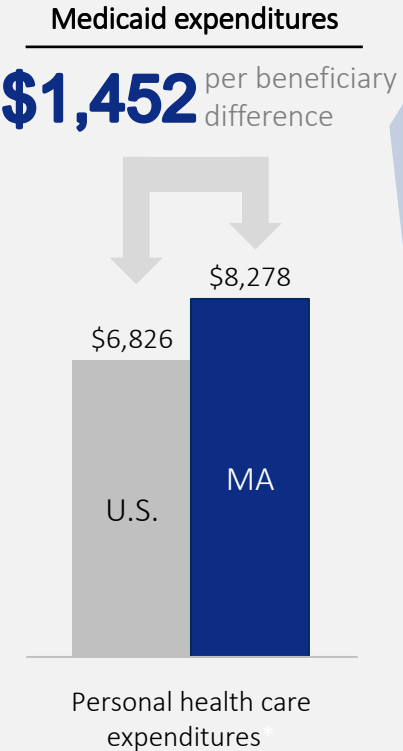
Massachusetts Medicare per beneficiary spending relative to U.S. average
Percent difference, 2009



* Estimated as the difference in spending that would remain if prices were set at national average levels
Source: Centers for Medicare & Medicaid Services

Medicaid: the majority of MassHealth spending above the U.S. average is in long-term care

Per beneficiary personal health care expenditures*
Dollars, 2009



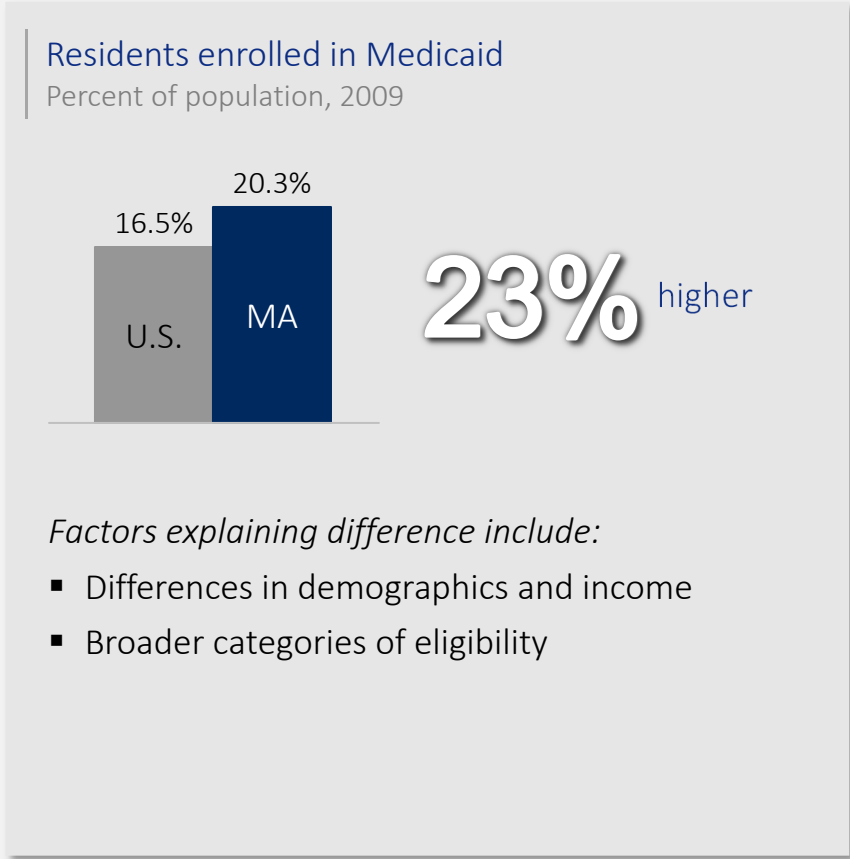
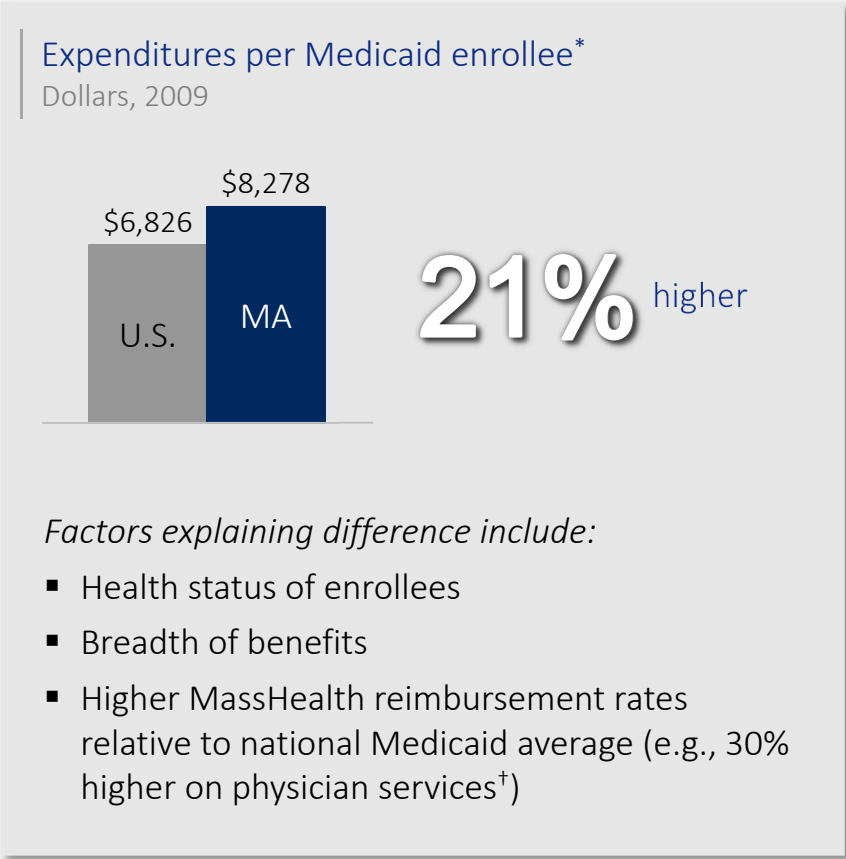
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‡ Includes physician and clinical services, dental services, and other professional services

Source: Centers for Medicare and Medicaid Services; HPC analysis

Medicaid: differences in spending are driven by breadth of benefits, reimbursement levels, and enrollment



* Personal health care expenditures (PHC) are a subset of national health expenditures. PHC excludes administration and the net cost of private insurance, public health activity, and investment in research, structures and equipment.

† Figure is based on 2008 data for Medicaid fee-for-service (FFS) programs; Tennessee excluded from analysis since the state does not have a Medicaid FFS program. Comparable figure for 2012 is 21%.

Overall: hospital utilization is higher in Massachusetts than the U.S. average, especially for outpatient services

Measures of hospital service utilization
Per 1,000 population, 2011 except where noted

	MA	U.S.	Difference (%)
<i>Hospital inpatient</i>			
Inpatient admissions (indexed to U.S., age-adjusted)	1.10	1.00	10%
Inpatient average length-of-stay	5.0	5.4	-7%
Inpatient days	631	600	5%
Inpatient surgeries*	32	32	0%
<i>Hospital outpatient[†]</i>			
Emergency department (ED) visits	468	415	13%
Outpatient visits, excluding ED	2,907	1,691	72%
Outpatient surgeries*	71	56	27%

* Figures for inpatient and outpatient surgeries are from 2010

† Outpatient hospital visits include all clinic visits, referred visits, observation services, outpatient surgeries, and emergency department visits

Source: Kaiser Family Foundation; American Hospital Association; Medical Expenditure Panel Survey; HPC analysis

Overall: in addition to higher utilization, Massachusetts has higher prices than the U.S. average across all payer types

Massachusetts prices relative to U.S. average
Price index, 2007-09

	Estimate of price relative to U.S.	Available evidence
Medicare	Above U.S. average	<ul style="list-style-type: none"> ▪ Analysis by CMS using standardized prices ▪ Method includes the effect of both unit prices and provider mix ▪ Data for 2009
MassHealth	Above U.S. average	<ul style="list-style-type: none"> ▪ Analysis by KFF based on survey of state reimbursement levels for physician services ▪ Method only includes the effect of unit prices ▪ Data for 2008
Commercial	Above U.S. average	<ul style="list-style-type: none"> ▪ Analysis by researchers on national commercial data from large, multi-state employers ▪ Method includes the effect of both unit prices and provider mix ▪ Data for 2007-2009

Generally, price differences may include two factors:

- **Unit prices:** the fee schedules established between payers and providers
- **Provider mix:** whether consumers choose to receive their care in higher-price or lower-price settings

Source: Centers for Medicare and Medicaid Services; Kaiser Family Foundation; The Urban Institute; Analysis by Chapin White of a report from the 1995-2009 Truven Health Analytics MarketScan® Commercial Claims and Encounters Database (copyright © 2011 Truven Health Analytics, all rights reserved); Harvard University research conducted for Institute of Medicine; HPC analysis

Both utilization differences and price differences factor into Massachusetts' spending above the U.S. average

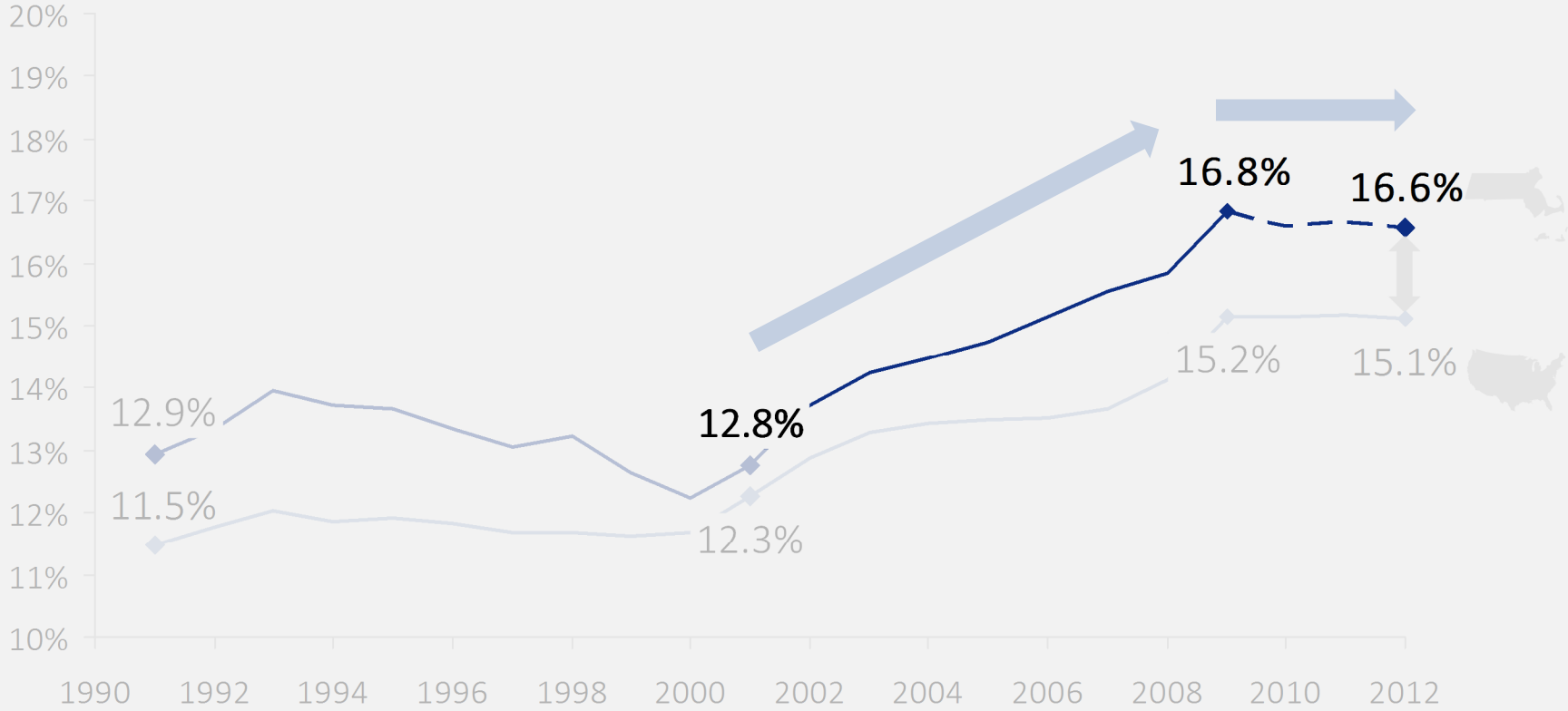
Levels of spending

<p>Per capita spending</p>	<ul style="list-style-type: none"> ▪ 36% higher than national average
<p>Utilization</p>	<ul style="list-style-type: none"> ▪ Higher utilization for state as a whole: <ul style="list-style-type: none"> – Inpatient (age-adjusted): 10% higher – Hospital outpatient: 72% higher ▪ Overall Medicare utilization comparable to national average, although differences may exist for particular categories of service
<p>Price</p>	<ul style="list-style-type: none"> ▪ National claims data sets suggest commercial prices are higher than national averages ▪ Medicare prices are 8 percent higher, driven by wage and teaching adjustments ▪ Medicaid unit prices for physician services are 30 percent higher than national averages

Source: Centers for Medicare and Medicaid Services; American Hospital Association; Kaiser Family Foundation; The Urban Institute; Analysis by Chapin White of a report from the 1995-2009 Truven Health Analytics MarketScan® Commercial Claims and Encounters Database (copyright © 2011 Truven Health Analytics, all rights reserved); Harvard University research conducted for Institute of Medicine; HPC analysis

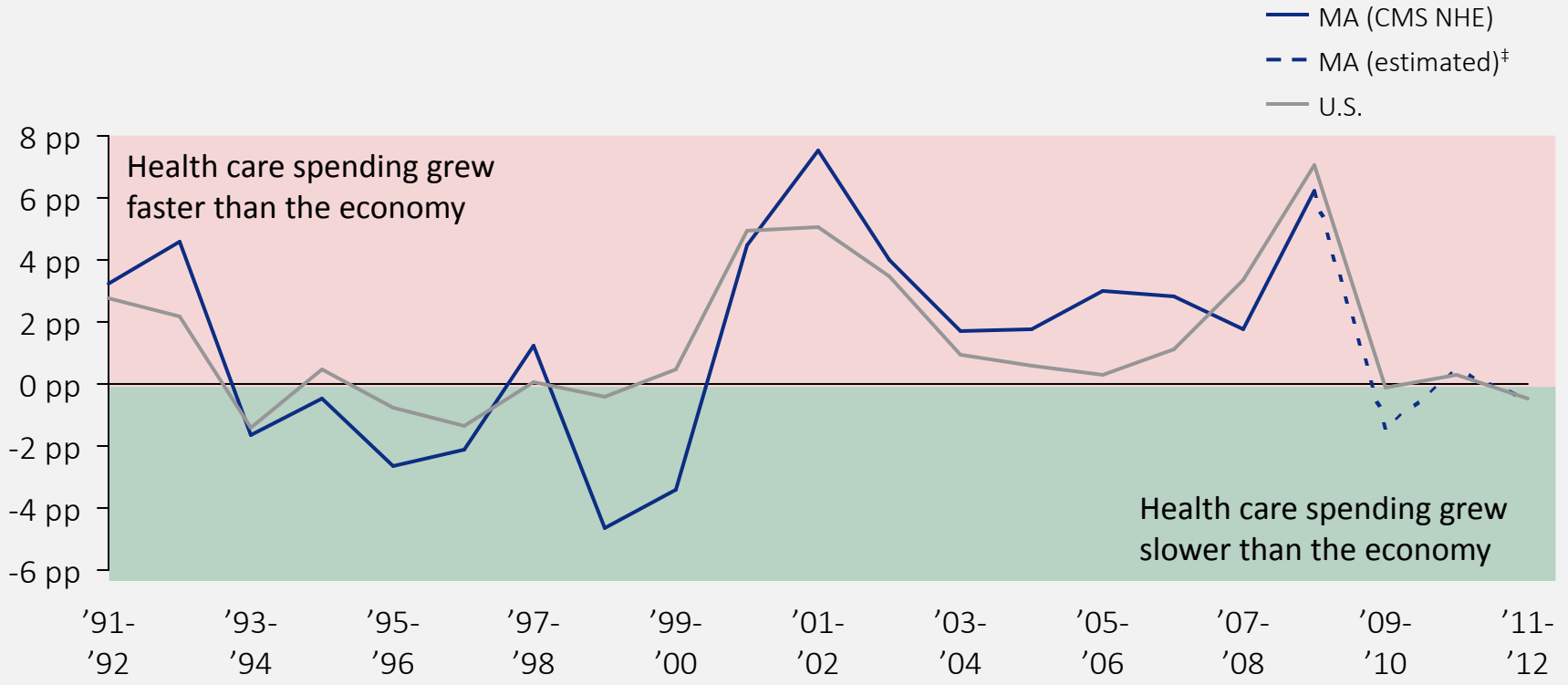
Profile of Massachusetts' health care spending

2 Trends in spending: what contributed to the growth in Massachusetts health care spending over the past two decades?



Slower health care growth in the 1990s was followed by faster growth in the 2000s

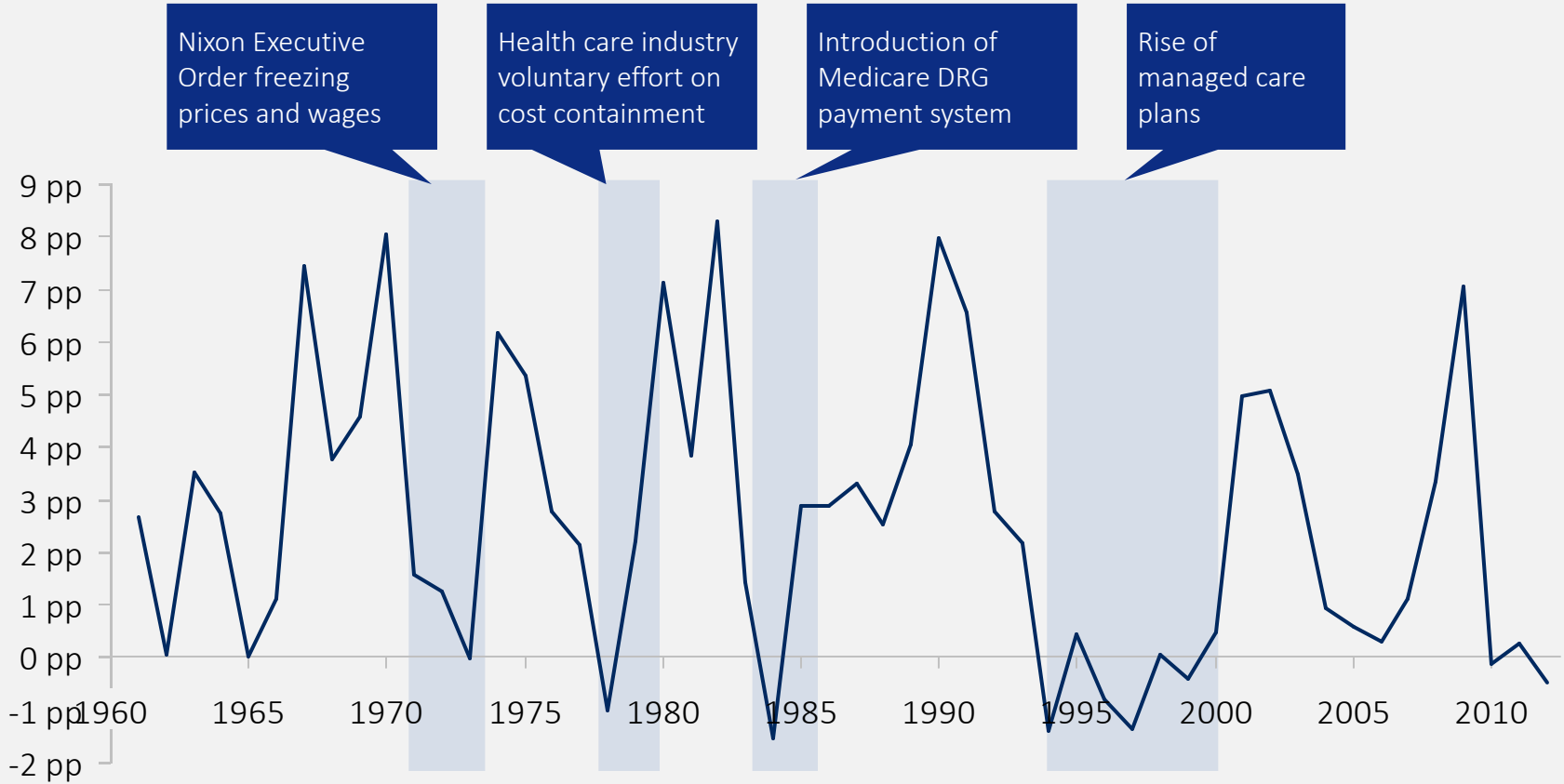
Growth in personal health care expenditures* relative to economic growth
 Percentage points of health care expenditure growth minus GDP/GSP growth†



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 † Measured as gross domestic product (GDP) for the U.S. and gross state product (GSP) for Massachusetts
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 Source: Centers for Medicare and Medicaid Services; Bureau of Economic Analysis; Center for Health Information and Analysis; MassHealth; Census Bureau; HPC analysis

The U.S. has not experienced sustained periods of slow health care spending growth

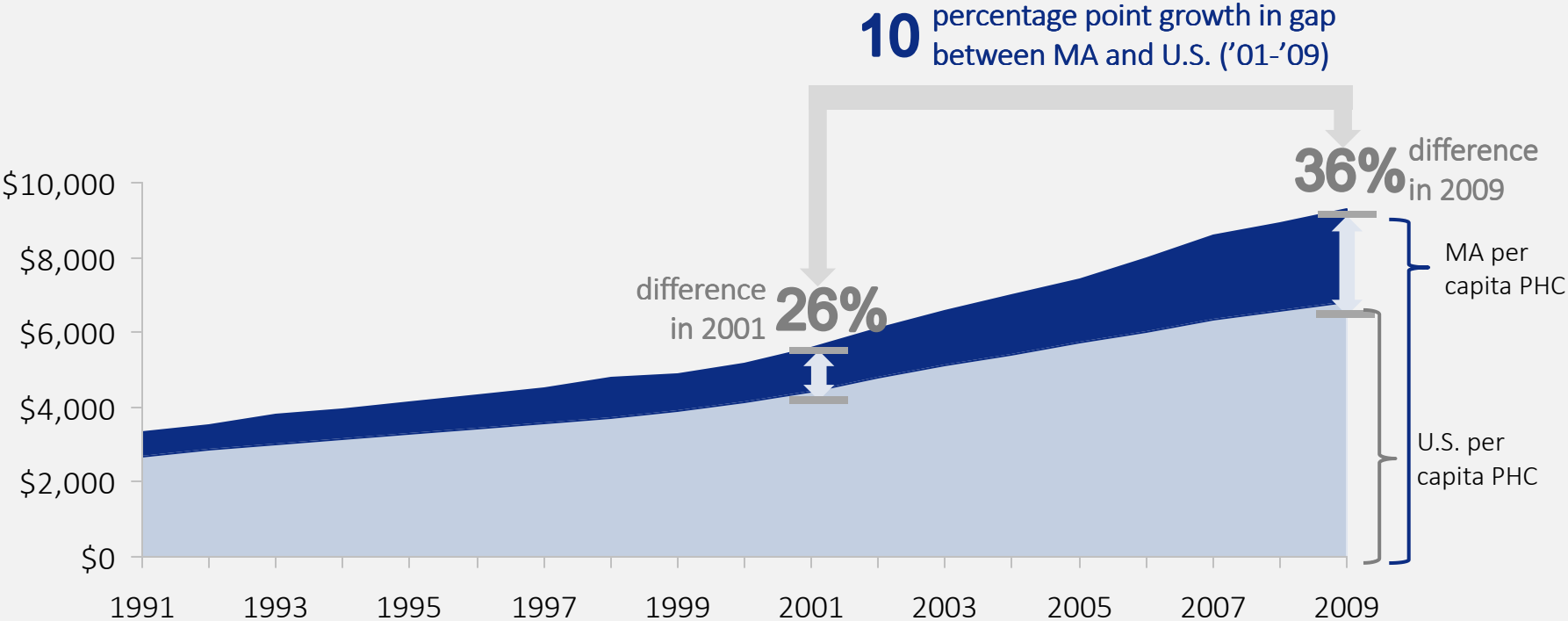
U.S. growth in personal health care expenditures in excess of economic growth*
Percentage points of health care expenditure growth minus GDP growth



* Personal health care expenditures (PHC) are a subset of national health expenditures. PHC excludes administration and the net cost of private insurance, public health activity, and investment in research, structures and equipment.

From 2001 to 2009, the difference between Massachusetts and the U.S. grew

Difference between Massachusetts and U.S. per capita personal health care expenditures*
Percent difference from national average



* Personal health care expenditures (PHC) are a subset of national health expenditures. PHC excludes administration and the net cost of private insurance, public health activity, and investment in research, structures and equipment.

Source: Centers for Medicare and Medicaid Services; Bureau of Economic Analysis; Center for Health Information and Analysis; MassHealth; Census Bureau; HPC analysis

Commercial prices were the primary driver of the increased difference from the U.S. average

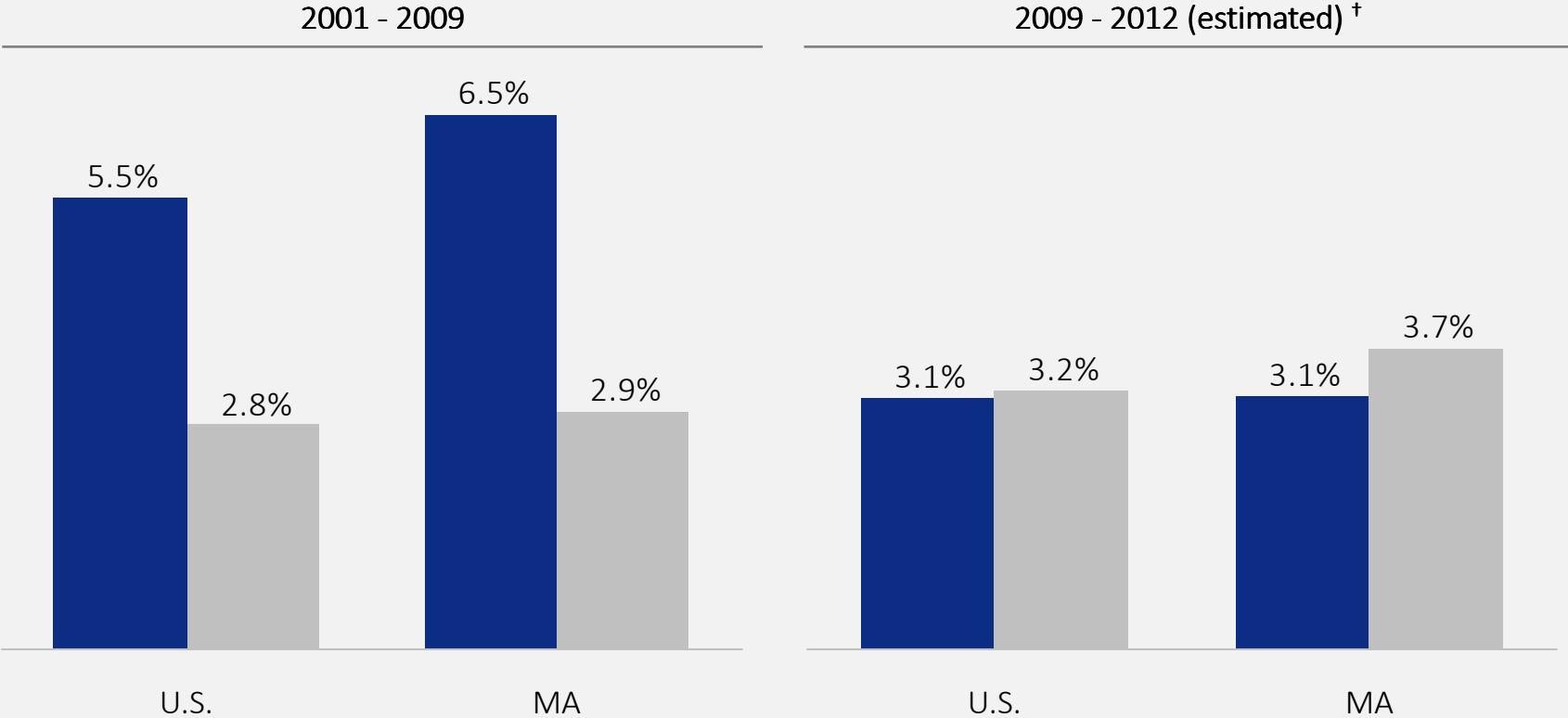
	Levels of spending	Trend from 2001 to 2009
Per capita spending	<ul style="list-style-type: none"> 36% higher than national average 	<ul style="list-style-type: none"> Difference between Massachusetts and the national average grew by 10 percentage points
Utilization	<ul style="list-style-type: none"> Higher utilization for state as a whole: <ul style="list-style-type: none"> Inpatient (age-adjusted): 10% higher Hospital outpatient: 72% higher Overall Medicare utilization comparable to national average, although differences may exist for particular categories of service 	<ul style="list-style-type: none"> Hospital utilization grew at approximately the same rate as national average
Price	<ul style="list-style-type: none"> National claims data sets suggest commercial prices are higher than national averages Medicare prices are 8 percent higher, driven by wage and teaching adjustments Medicaid unit prices for physician services are 30 percent higher than national averages 	<ul style="list-style-type: none"> Commercial hospital inpatient prices grew 10 percentage points relative to national average

Source: Centers for Medicare and Medicaid Services; American Hospital Association; Kaiser Family Foundation; The Urban Institute; Analysis by Chapin White of a report from the 1995-2009 Truven Health Analytics MarketScan® Commercial Claims and Encounters Database (copyright © 2011 Truven Health Analytics, all rights reserved); Harvard University research conducted for Institute of Medicine; HPC analysis

From 2009 to 2012, growth rates slowed in line with the U.S.

Growth in personal health care expenditures relative to growth in economy*
Per capita compound annual growth rate

Personal health care expenditure growth
GSP/GDP growth



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 † CMS state-level personal health care expenditure data have only been published through 2009. 2010-2012 MA figures were estimated based on 2009-2012 expenditure data provided by CMS for Medicare, ANF budget information statements and expenditure data from MassHealth, and CHIA TME reports for commercial payers.
 Source: Centers for Medicare and Medicaid Services; Bureau of Economic Analysis; Center for Health Information and Analysis; MassHealth; Census Bureau; HPC analysis

Our focus is on statewide, per capita growth

What is the benchmark measured against?

$$\frac{\text{Aggregate statewide health care expenditures}}{\text{Population of Massachusetts}}$$

Benchmark is measured against statewide, per capita health care growth

Estimates of per capita / per member medical trend* in 2009-12

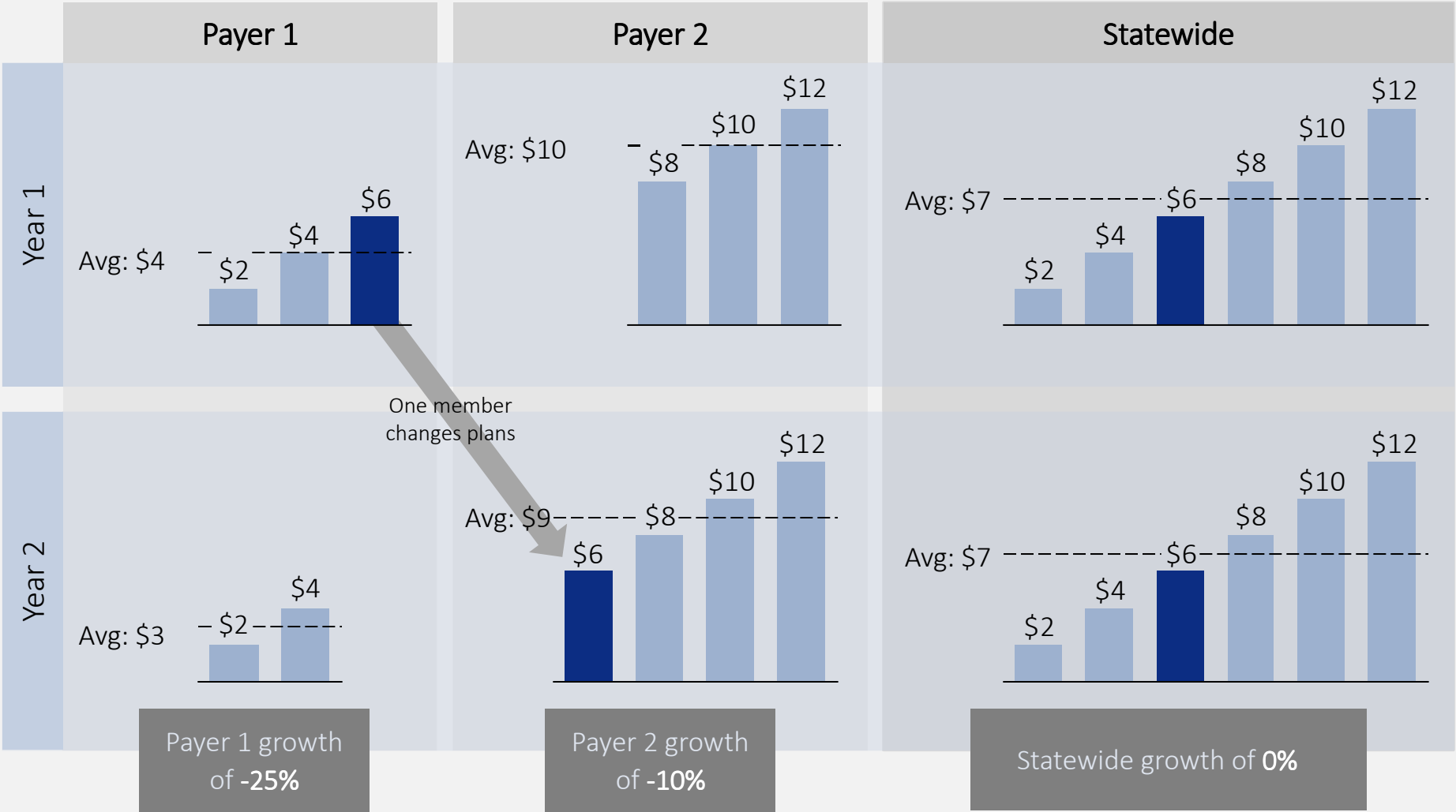
3.1%	Statewide	Figure is higher than for any individual payer
1.5%	Medicare	
0.8%	MassHealth	
2.8%	Commercial	

* Medical trend is one component of total health care expenditures, but does not capture the entire measure. The measure that will be compared to the Chapter 224 benchmark also includes the net cost of private health insurance.

Source: Centers for Medicare and Medicaid Services; Bureau of Economic Analysis; Center for Health Information and Analysis; MassHealth; Census Bureau; HPC analysis

Accounting for shifts in payer mix is important when tracking statewide growth

Illustrative example
Per member per year spending



Enrollment shifts from 2009-2012 affected total Massachusetts expenditure growth

Massachusetts health care cost trends, 2009 - 2012
Compound annual growth rate

Estimated* growth	Payer	Enrollment	Per person expenditures
	Medicare	2.7%	1.5%
	MassHealth	4.7%	0.8%
	Commercial	-1.0%	2.8%
	Massachusetts – total population	0.3%	3.1%

Illustrative example: statewide growth at hypothetical payer growth rates with same enrollment shifts	Payer	Enrollment	Per person expenditures
	Medicare	2.7%	3.6%
	MassHealth	4.7%	3.6%
	Commercial	-1.0%	3.6%
	Massachusetts – total population	0.3%	4.8%

* CMS state-level personal health care expenditure data have only been published through 2009. 2010-2012 MA figures were estimated based on 2009-2012 expenditure data provided by CMS for Medicare, ANF budget information statements and expenditure data from MassHealth, and CHIA TME reports for commercial payers.

Source: Centers for Medicare and Medicaid Services; Bureau of Economic Analysis; Center for Health Information and Analysis; MassHealth; Census Bureau; HPC analysis

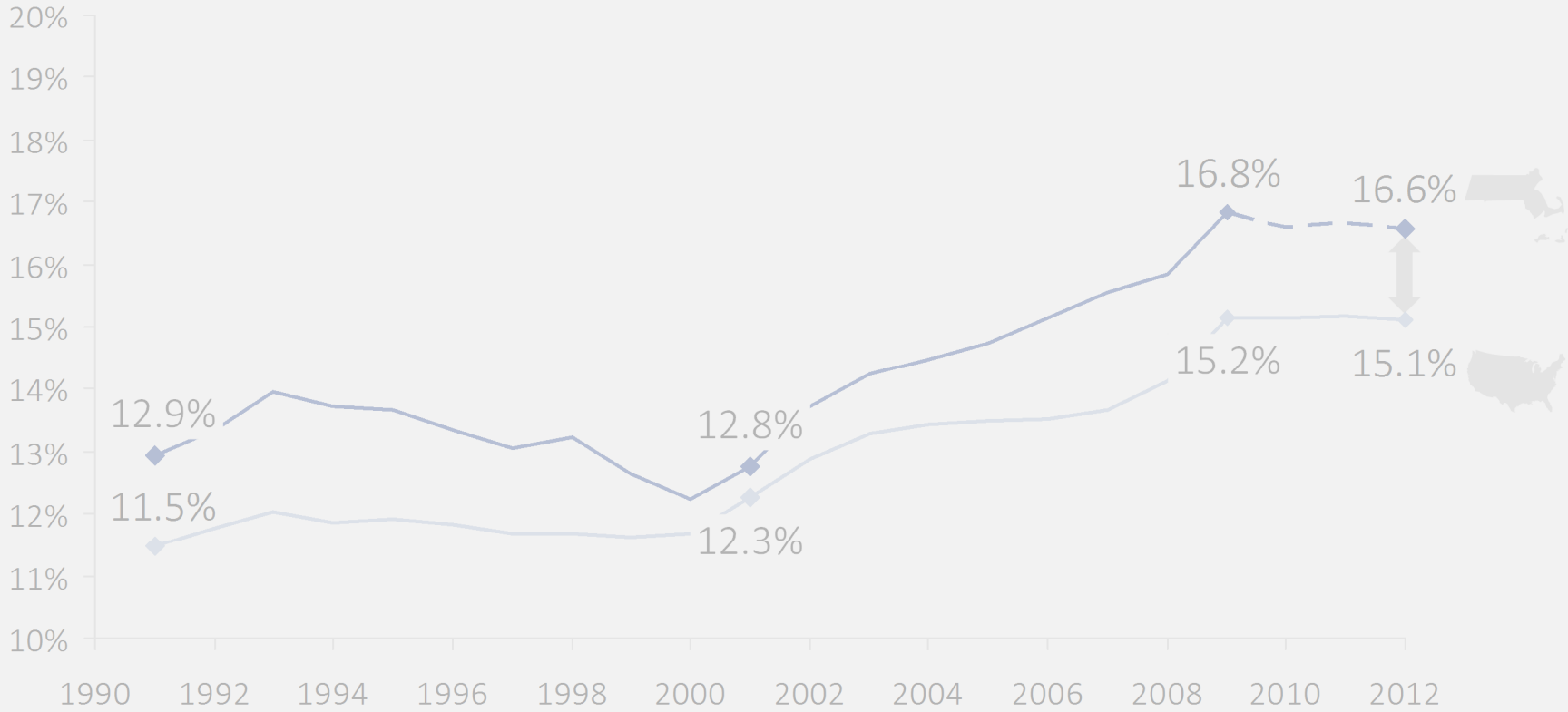
Price has driven recent commercial expenditure growth, while utilization has driven Medicare expenditure growth

Deconstruction of expenditure growth in the commercial and Medicare markets
 Growth of driver relative to overall growth, 2009-2011

Drivers of expenditure growth	Driver	Description	Commercial change 2009-2011	Medicare change 2009-2011
	Risk	<ul style="list-style-type: none"> Changes in average health status across all members 	Limited change	Limited change
	Utilization	<ul style="list-style-type: none"> Changes in the quantity of services used, adjusted for changes in average health status 	Limited change	Increase
	Price	<ul style="list-style-type: none"> Changes in unit prices: the fee schedules established between payers and providers Changes in provider mix: whether consumers choose to receive their care in higher-price or lower-price settings 	Increase	Limited change*

* Medicare fee-for-service unit prices are set according to a fee schedule established by the Centers for Medicare & Medicaid Services (CMS), which is adjusted to reflect input cost differences due to geography and teaching status. Cost growth attributable to price may occur if CMS updates fee schedules or if Medicare beneficiaries choose to receive care in settings with higher input costs.

Profile of Massachusetts' health care spending



3

The Massachusetts delivery system: how do characteristics of the state's delivery system contribute to spending levels and trends?

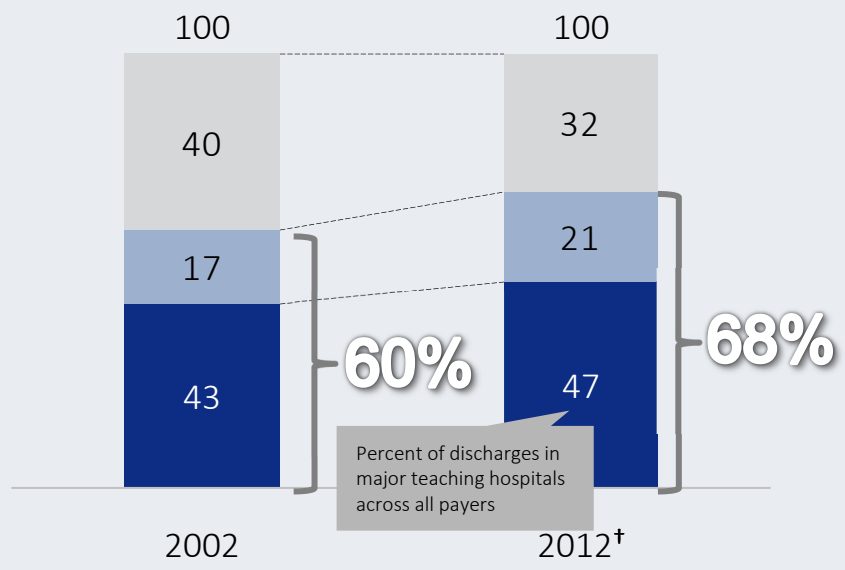
The Massachusetts delivery system uses major teaching hospitals for far more of its inpatient care than the national average

40% of Medicare discharges in Massachusetts are in major teaching hospitals*

16% of Medicare discharges nationwide are in major teaching hospitals*

All-payer discharges in systems with major teaching hospitals *
Percent of total statewide discharges

- Other hospitals not in systems with major teaching hospitals
- Other hospitals in systems with major teaching hospitals
- Major teaching hospitals

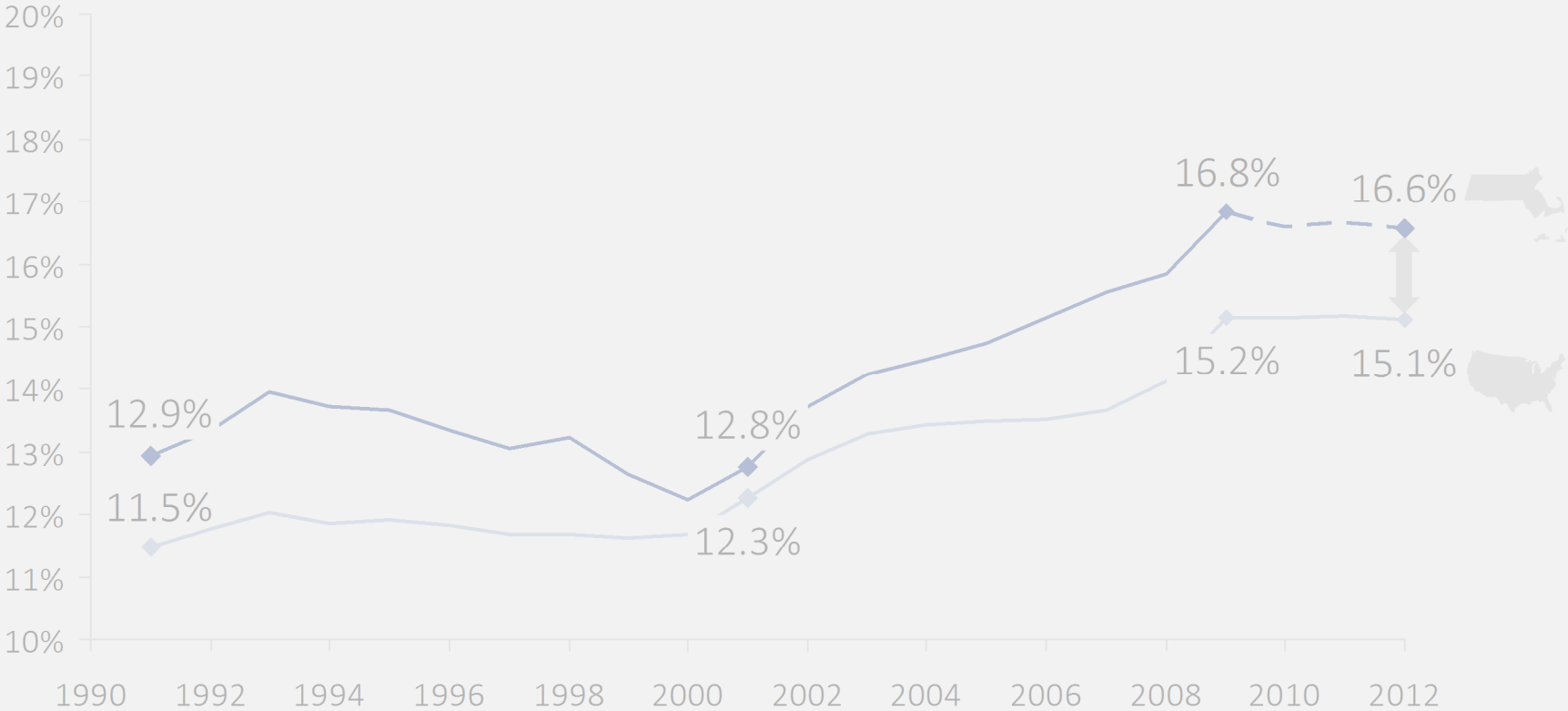


* Major teaching hospitals are defined as those with at least 25 residents per 100 beds.

† Based on systems in 2012. Does not include impact of several transactions (Cooley Dickinson Hospital, Jordan Hospital) completed in 2013.

Source: Center for Health Information and Analysis; Medicare Payment Advisory Commission; HPC analysis

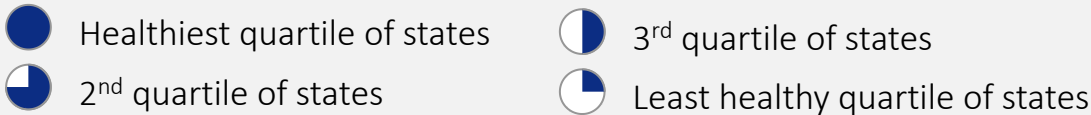
Profile of Massachusetts' health care spending



4 Quality and access: how does Massachusetts perform compared to the U.S. on measures of quality and access?

The Massachusetts population has relatively low chronic disease prevalence, although asthma rates are high

Prevalence of common chronic diseases
Percent of population



	MA	U.S.	MA Quartile
Diabetes	8.0%	9.5%	
Angina / coronary heart disease	3.8%	4.1%	
Cancer	12.0%	12.4%	
Depression	16.7%	17.5%	
Asthma	15.4%	13.6%	

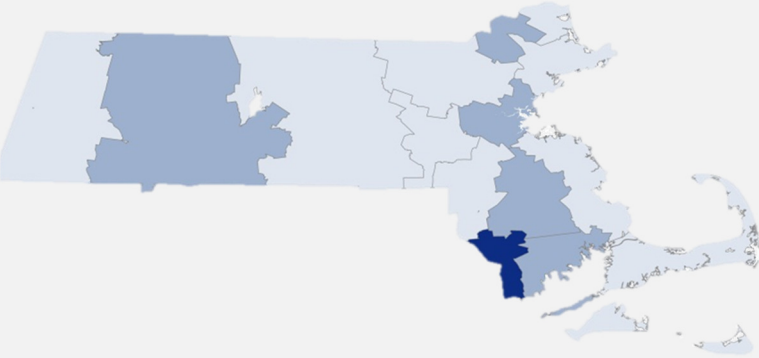
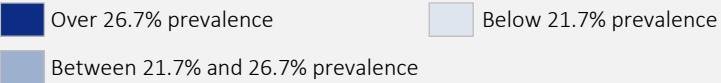
Note: Measures above were collected through the Behavioral Risk Factor Surveillance System and are defined as follows:
 Diabetes: Responded "Yes" to "(Ever told) you have diabetes?"
 Angina / coronary heart disease: Responded "Yes" to "(Ever told) you had angina or coronary heart disease?"
 Cancer: Responded "Yes" to "(Ever told) you had skin cancer?" or to "(Ever told) you had any other types of cancer?"
 Depression: Responded "Yes" to "(Ever told) you have a depressive disorder, including depression, major depression, dysthymia, or minor depression?"
 Asthma: Responded "Yes" to "(Ever told) you had asthma?"

Disease prevalence varies greatly by region within the state

Diabetes prevalence by region

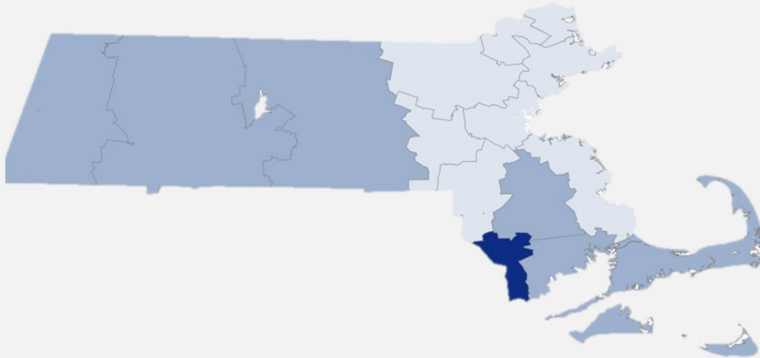
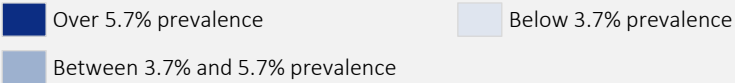
Payer-specific prevalence rate

MEDICARE



21.7% Statewide prevalence of diabetes within Medicare

COMMERCIAL



3.7% Statewide prevalence of diabetes within commercial

Massachusetts outperforms national averages on many quality measures, but often falls short of a 90th percentile benchmark

Condition and procedure quality measures

Units vary by measure

● Better than 90th percentile
 ◐ Between average and 90th percentile
 ○ Below average

	U.S.	MA	Relative performance
Prevention and population health			
Childhood immunization status	61%	76%	●
Low birth weight rate	8.1%	7.7%	◐
Rate of older adults receiving flu shots	70%	73%	◐
Rate of female adolescents receiving HPV vaccine	24%	41%	◐
Chronic care			
Rate of cholesterol management for patients with cardiovascular conditions	89%	92%	◐
Rate of controlling high blood pressure	63%	71%	◐
Rate of diabetes short-term complications admissions (adult)	58 per 100,000	48 per 100,000	◐
Number of admissions for CHF	338 per 100,000	374 per 100,000	○
Number of adults admitted for asthma*	114 per 100,000	140 per 100,000	○
Number of COPD admissions	199 per 100,000	247 per 100,000	○
Patient safety			
Rate of iatrogenic pneumothorax (risk-adjusted)	0.42 per 1,000	0.41 per 1,000	N/A
Rate of postoperative respiratory failure	8.3 per 1,000	6.6 per 1,000	N/A
Rate of central venous catheter-related blood stream infections	0.39 per 1,000	0.28 per 1,000	N/A

* Admissions for asthma per 100,000 population, age 18 and over; NQF measure counts all discharges of age greater than 18 and less than 40 years old

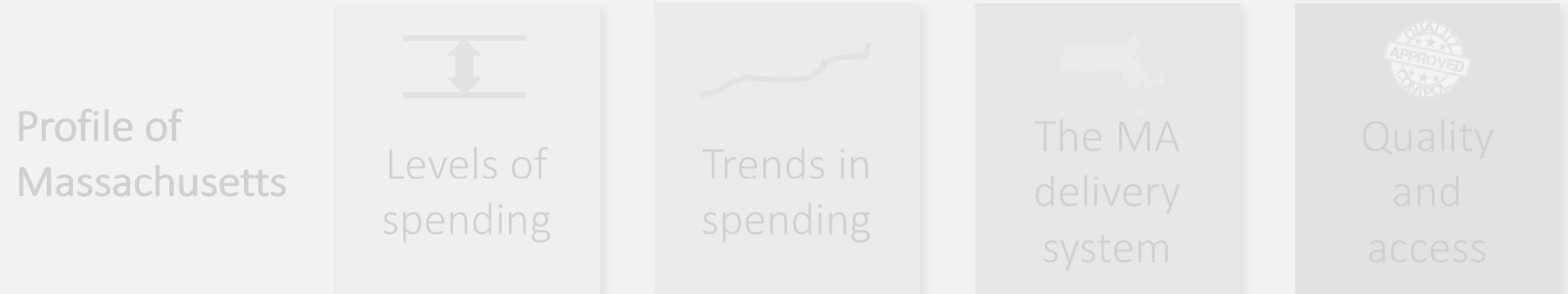
Source: Massachusetts Health Quality Partners; Kaiser Family Foundation; Agency for Healthcare Research and Quality; Massachusetts Immunization Action Partnership; Centers for Disease Control and Prevention; Center for Health Information and Analysis; HPC analysis

Conclusion for profile of Massachusetts' health care spending

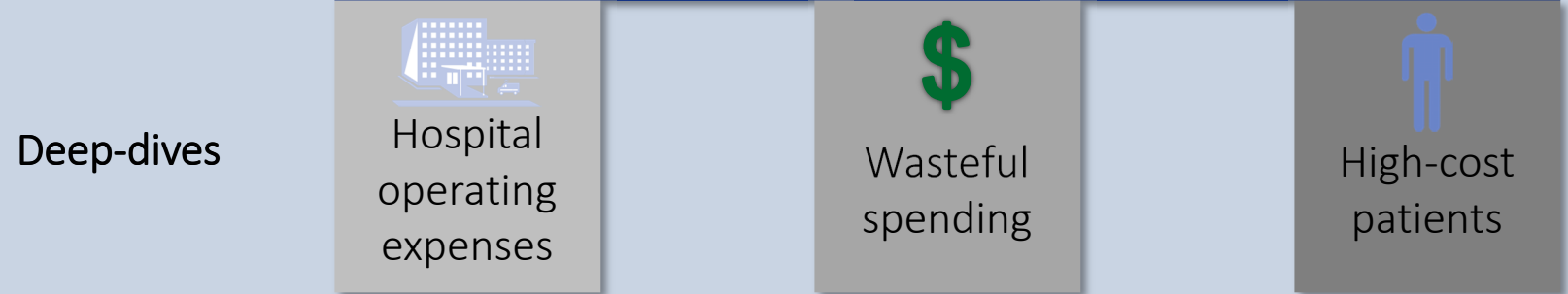
- **Spending in Massachusetts is the highest of any state in the U.S., crowding out other priorities for consumers, businesses, and government**
 - Over the past decade, Massachusetts health care spending has grown much faster than the national average, driven primarily by faster growth in commercial prices
 - Massachusetts residents continue to use health care services at a higher rate than the nation, especially in hospital care and long-term care, although the difference between Massachusetts and the U.S. average has been stable over the past decade

- **While spending growth in Massachusetts since 2009 has slowed in line with slower national growth, sustaining lower growth rates will require effort**
 - Past periods of slow health care growth in Massachusetts, such as the 1990s, have been followed by sustained periods of higher growth
 - While observed growth rates for individual payers are low, the statewide growth rate is higher, driven by enrollment shifts between payers due to trends such as the aging of the population

Topics in the 2013 cost trends report

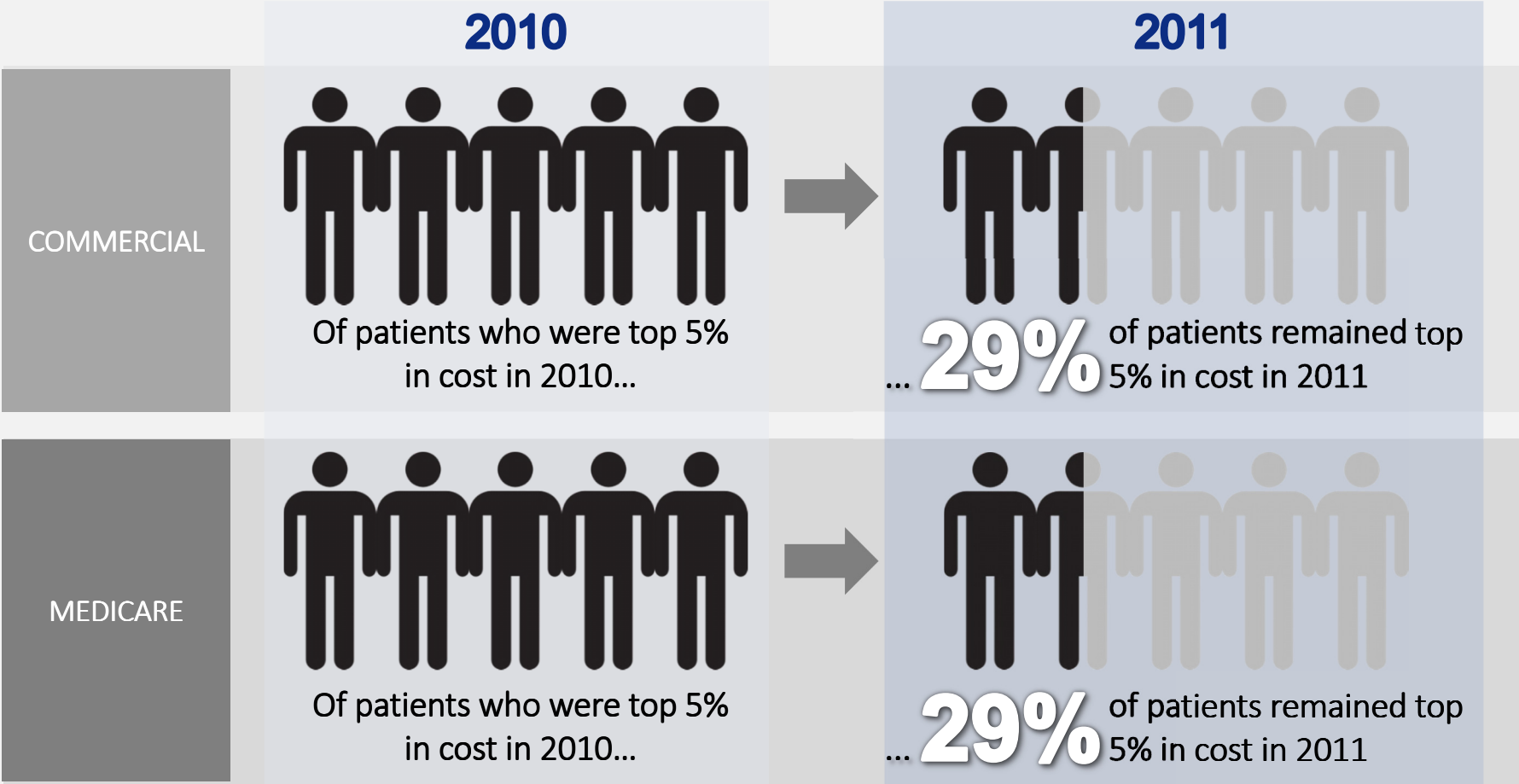


2013 cost trends report



In the commercial and Medicare markets, persistence within the high-cost patients is 29 percent

Analyzing persistence of high-cost (top 5% by expenditures) patient status*
Percent of medical expenditures (excludes drug spending) in 2010 and 2011

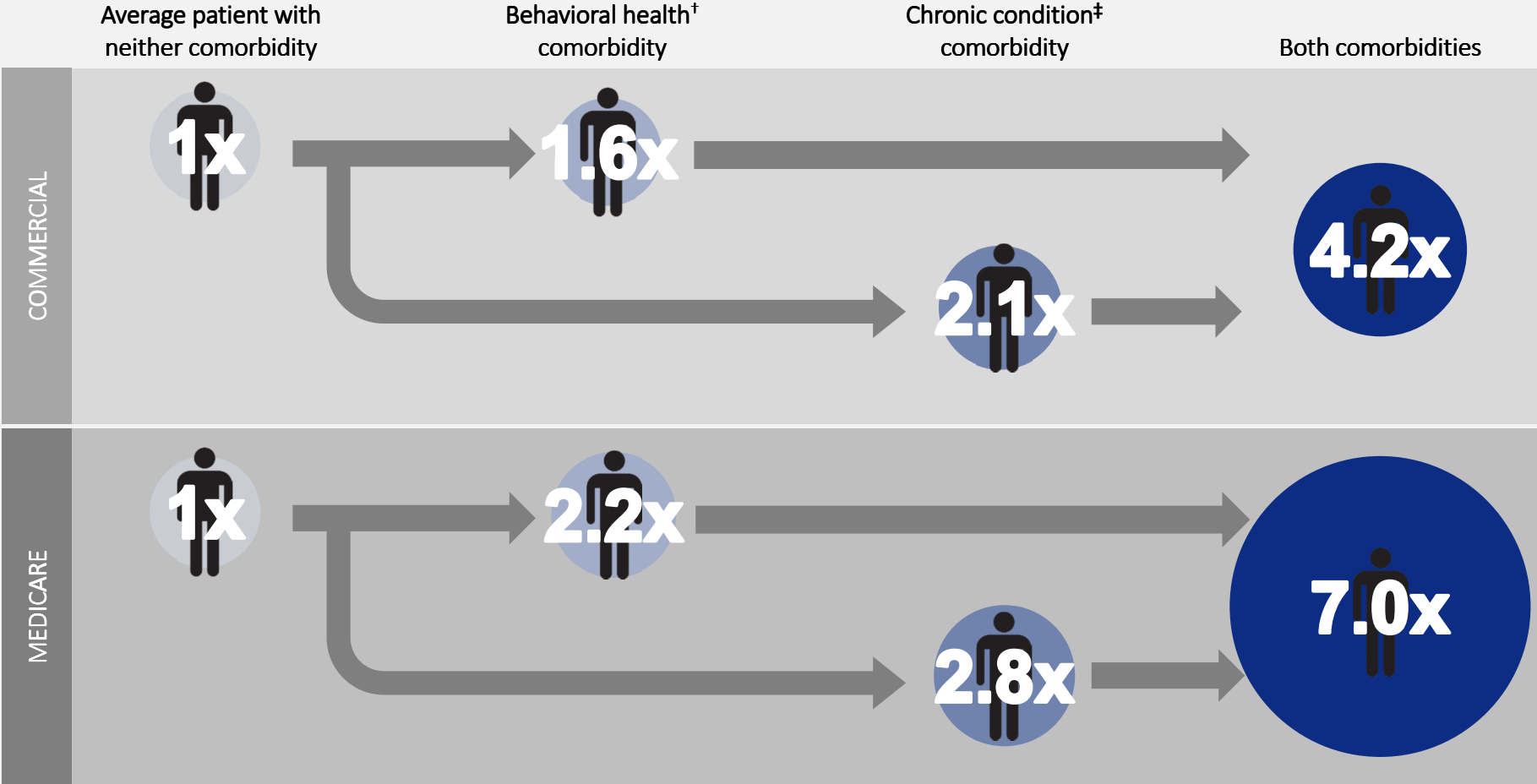


* The sample for analysis was limited to patients who had continuous enrollment from 1/1/2010 – 12/31/2011 and costs of at least \$1 in each year. Figures do not capture pharmacy costs, payments outside the claims system, Medicare cost-sharing, or end-of-life care for patients who died in 2010 or 2011.

Patients with behavioral health and chronic conditions have significantly higher medical expenditures

Medical expenditures per patient (excludes drug spending)*

Relative to average patient with no behavioral health or chronic comorbidity in 2010



* The sample for analysis was limited to patients who had continuous enrollment from 1/1/2010 – 12/31/2011 and costs of at least \$1 in each year. Figures do not capture pharmacy costs, payments outside the claims system, Medicare cost-sharing, or end-of-life care for patients who died in 2010 or 2011.

† Behavioral health comorbidity includes child psychology, severe and persistent mental illness, mental health, psychiatry, and substance abuse

‡ Chronic condition includes arthritis, epilepsy, glaucoma, hemophilia, sickle-cell anemia, heart disease, HIV/AIDS, hyperlipidemia, hypertension, multiple sclerosis, renal, asthma, and diabetes