



Commonwealth  
of Massachusetts

Center for Health  
Information and Analysis

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# Massachusetts Total Health Care Expenditure Methodology

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Center for Health  
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## Executive Summary

The purpose of this paper is to describe the methodology for calculating total health care expenditures (THCE) for the Commonwealth of Massachusetts. Chapter 224 of the Acts of 2012 requires that the Center for Health Information and Analysis (the Center) report on THCE each year to monitor the rate of growth and measure the Commonwealth's progress toward meeting its health care cost growth benchmark.

The Center's approach to the THCE calculation aims to support its intended uses: analysis of state-level expenditures and the annual growth rate as well as to support analysis of potential drivers of cost growth. Toward that end, the Center's THCE model uses data reported timely and directly by Massachusetts commercial payers, the Centers for Medicare and Medicaid Services (CMS) and MassHealth, the Massachusetts Medicaid program. Since the model was designed to meet specific statutory requirements, it should be used only for Massachusetts-specific analysis and not for national comparison.

This paper provides background information on the Center's legislative requirements regarding the THCE calculation, discusses the objectives and intended uses of THCE, and presents the Center's methodological approach. This paper also describes the model's elements and data sources, and a comparison to other measures.

Based on the Center's model, THCE for Massachusetts residents in 2011 was about \$48.6 billion (\$7,351 per capita). Expenditures from commercially insured populations accounted for 36% of THCE, while expenditures from populations covered by public programs accounted for 59%. The net cost of private health insurance accounted for 5% of THCE.

The Commonwealth's initiative to link the growth in health care spending with the projected growth in gross state product is a first-in-the-nation approach to health care cost reform. The calculation of THCE represents an important opportunity for the Commonwealth to measure the progress of its cost containment efforts. The Center will report for the first time on the growth of THCE in 2013 in its *Annual Report on the Massachusetts Health Care Market* in August of 2014.

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## Background

The establishment of a health care cost growth benchmark that is inked to the performance of Massachusetts' economy is a key element of the Commonwealth's overall efforts to improve the quality and efficiency of the health care delivery system. In August 2012, Governor Deval Patrick signed into law Chapter 224 of the Acts of 2012: *An Act Improving the Quality of Health Care and Reducing Costs through Increased Transparency, Efficiency and Innovation* (Chapter 224), a comprehensive approach aimed at realizing these goals. This legislation also created the Center for Health Information and Analysis (the Center), an independent state agency responsible for collecting and analyzing data from health care payers, providers and provider organizations. The Center monitors the Massachusetts health care system and publishes its findings in analyses and reports.

To better understand health care spending in Massachusetts, the Center will calculate total health care expenditures (THCE) for the state. The year-over-year growth in THCE *per capita* will be compared to the health care cost growth benchmark to evaluate the success of cost containment efforts. This benchmark is established annually by the Health Policy Commission (the Commission) and is tied to each year's rate of growth in potential gross state product.

THCE is a measure of total spending for health care in the Commonwealth. Chapter 224 defines THCE as the annual per capita sum of all health care expenditures in the Commonwealth from public and private sources, including: (i) all categories of medical expenses and all non-claims related payments to providers, as included in the health status adjusted total medical expenses (TME) reported by the Center; (ii) all patient cost-sharing amounts, such as deductibles and copayments; and (iii) the net cost of private health insurance, or as otherwise defined in regulations promulgated by the Center.<sup>1</sup>

The Center is required to publish the results of THCE analysis at least thirty days in advance of public hearings on health care cost trends, conducted by the Commission. The information in the Center's report will inform the public hearings and possible future action by the Commission.

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<sup>1</sup> Defined in M.G.L. c. 12C, Section 1.

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## Objectives

The calculation of THCE is designed to serve two primary objectives outlined in Chapter 224. First, THCE will be used to measure the financial performance of the Massachusetts health care system. On a statewide level, the THCE calculation will illustrate year-over-year trends in health care spending in the Commonwealth. The annual growth in THCE will be compared with each year's health care cost growth benchmark to determine whether the Commonwealth has met its cost containment efforts.

Second, the components of THCE will support analysis of expenditures at the payer, provider and provider organization level, allowing for more detailed understanding of cost drivers in the Commonwealth. As required by the statute, the Center will perform ongoing analysis of the data it collects to identify any payers, providers, or provider organizations whose increase in health status adjusted TME is considered excessive, and who may jeopardize the ability of the state to meet the health care cost growth benchmark. In such cases, the Center will notify the Commission which, beginning in 2015 may pursue further action, including implementation of performance improvement plans.

## Approach

In consultation with key stakeholders, health policy experts, actuaries, and other state agencies, the Center sought to develop a methodology that is consistent with the stated objectives of THCE. To meet these objectives, data sources must be precise to capture payer and provider-level cost growth, but also comprehensive enough to represent the total health care spending of Massachusetts residents.

Toward that end, the Center determined that data sources should meet specific criteria. First, the data must be accurate, meaning that the data should be consistently reported and tracked each year. The Center prioritized data that was reported directly by financing agents (i.e. public and private payers) and reflective of actual, not projected, expenditures. Second, it is critical that data sources are available within the specific time frame in which the Center must calculate and publish THCE. Third, data sources should support analysis at the health care entity level. In addition to the state-level analysis, this data must allow for payer, provider and provider organization-specific growth rate analysis. As the Center is required to identify health care entities<sup>2</sup> that threaten the Commonwealth's ability to achieve the benchmark, it is imperative that the data sources used can support this level of detail. These standards are intended to ensure that the THCE model is driven by accurate, timely, comprehensive and actionable data.

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<sup>2</sup> Health care entity is defined as a provider, provider organization or carrier in M.G.L. c. 6D, Section 1.

## Initial and Final Assessments

The Center must publish its report on THCE, including an assessment of whether the rate of growth in THCE met the health care cost growth benchmark, by September 1<sup>st</sup> of each year. This timeline impacts the model design and approach, as claim payment amounts are not finalized until several months after the close of the calendar year. As such, the THCE timeline does not provide enough time for full claims run-out, provider quality and cost performance evaluation, and financial settlements. Thus, in order to report on THCE within the timeline required, estimates of claims run-out and provider settlements will need to be incorporated in the calculation of THCE. In recognition of this use of estimated data, the Center will first develop an initial assessment and later complete a final assessment of THCE for the performance year.

The initial assessment will be included in the Center’s *Annual Report on the Massachusetts Health Care Market* which will be released by September 1<sup>st</sup> of each year to meet the statutory deadline. This assessment will be comprised of TME-sourced aggregate payer-reported data with up to four months of claims run-out MassHealth data, CMS-sourced Medicare data, and supplemented by claims completion and settlement estimates obtained directly from the payers.

The final assessment will be released 12 months after the initial assessment and will be a refined version of the model, incorporating up to 16 months of claims run-out and settlements. Claims analysis from the All Payer Claims Database (APCD) will also be used to enhance model calculations for the final assessment. The final assessment will contain the same elements as the initial assessment, but will serve to update the findings.

## Timeline

THCE model development, refinement, and release are based on data availability and statutory deadlines. The Center will report for the first time on the growth of THCE in 2013 in its *Annual Report on the Massachusetts Health Care Market* in August of 2014. A sample timeline for 2014-2016 can be seen below:

CHIA Annual Report August 2014	<b>Initial 2013 Benchmark Assessment</b> Data Source for Commercial Insurance: 2012 Final TME (available May 2014) 2013 Preliminary TME (available May 2014)		
CHIA Annual Report August 2015	<b>Final 2013 Benchmark Assessment</b> Data Source for Commercial Insurance: 2012 TME + APCD (available Dec 2013) 2013 TME + APCD (available Dec 2014)	<b>Initial 2014 Benchmark Assessment</b> Data Source for Commercial Insurance: 2013 Final TME (available May 2015) 2014 Preliminary TME (available May 2015)	
CHIA Annual Report August 2016		<b>Final 2014 Benchmark Assessment</b> Data Source for Commercial Insurance: 2013 TME + APCD (available Dec 2014) 2014 TME + APCD (available Dec 2015)	<b>Initial 2015 Benchmark Assessment</b> Data Source for Commercial Insurance: 2014 Final TME (available May 2016) 2015 Preliminary TME (available May 2016)

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## THCE Model Elements

A critical element of THCE is data that can be reliably and timely sourced year over year. Accordingly, the Center has identified certain data elements and sources to best meet its statutory requirement. In the broadest view, these sources can be categorized as representing the three components of Massachusetts health care expenditures: commercial insurance, public coverage and programs, and the net cost of private health insurance.

These three categories are further broken down to their individual elements and sourcing. The dollar amounts from these categories are then applied to the Census Bureau-reported population for the reported year to establish a THCE *per capita* value. Detailed information on the model elements as discussed below are accompanied by a summary of the calculation based on 2011 data for reference purposes. An example of the calculation and supporting schedules are included in the Data Appendix.

### Commercially Insured

In accordance with the requirements of THCE, the model includes expenditures by commercial payers on behalf of Massachusetts residents, including both the fully-insured and self-insured populations. For the initial assessment, the primary data source is TME-reported data, which is filed directly with the Center by the ten largest commercial payers in the Massachusetts market. The TME data includes claims and non-claims payments for the previous calendar year, based on up to four months of claims run-out and incorporates completion factors as necessary. Payers submit this data based on “allowed amounts,” which include paid medical claims as well as patient cost-sharing, such as co-payments, co-insurance and deductibles. As such, the TME data captures the health care expenditures of commercial payers and their members.

In some circumstances, payers are only able to report claim payments for limited medical services due to benefit design, where some services such as behavioral health or pharmacy services may be “carved out” or provided separately from the other medical services. In these instances, payers are unable to obtain the payment information and do not hold the insurance risk for the carved-out services. Thus, payers will report this type of TME data separately in the commercial partial-claim category.<sup>3</sup> To estimate the full TME amount for the commercial partial-claim population, the Center will make actuarial adjustments based on the reported partial-claim TME data. These adjustments will be made by first calculating partial-claim TME per member per month (PMPM) and the PMPM amount for each service category using each payer’s zip-code level TME data.<sup>4</sup> Next, the Center will calculate full-claim TME, adjusted to reflect the risk scores of the TME partial-claim population by payer and the PMPM amount by service category. For service categories where the PMPM amount of the partial-claim population exceeds that of the adjusted PMPM amount of the full-claim population, the reported amount will be used. For the remaining service categories, the PMPM amount will be adjusted to represent the same proportion of TME as the full-claim population, with excess non-claims redistributed to the other service categories. It is anticipated that the partial-claim population is primarily from the payer’s administrative service only (ASO) business for the self-insured accounts, in which non-claim based payments are uncommon. If the PMPM amount for each service category of the partial-claim population is less than that of the full-claim population adjusted to partial-claim risk scores, the Center will use the adjusted full-claim PMPM amount for all service categories.

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<sup>3</sup> Please see the Center’s regulation 957 CMR 2.00 for the submission requirements of TME data.

<sup>4</sup> As defined in 957 CMR 2.00, service categories of TME data include: hospital inpatient, hospital outpatient, professional physician, professional other, pharmacy, other, and non-claim payments.

To include expenditures from the commercial payers with smaller market shares in Massachusetts that are not required to submit TME data, the Center will utilize expense information from medical loss ratio (MLR) reports filed with the Centers for Medicare and Medicaid Services (CMS). Only commercial payers with established Massachusetts contracts will be included in the calculation, as THCE is intended to capture health care expenditures for Massachusetts residents only. To estimate the proportion of the reported spending that applies to Massachusetts residents, the Center will use hospital-reported discharge data to estimate the proportion of hospital inpatient charges that are non-Massachusetts residents. This proportion will then be applied to the reported spending to exclude the estimated proportion of expenditures on behalf of non-Massachusetts residents. This approach ensures that THCE includes expenditures from all private health insurance plans that are licensed to sell health insurance in Massachusetts.

The final THCE assessment will incorporate TME data augmented with the member and payment information from the APCD. Commercial payers submit this data directly to the Center on a monthly basis. Due to the claims adjudication and data quality assessment processes, the information from the APCD is not available at the time of the THCE initial assessment.

A summary of 2011 total spending for the commercially insured is presented below.

Category	Data Source	2011 Total Spending
<b><i>Commercially Insured</i></b>		
Commercial Full-Claim	Reported by commercial payers to the Center	\$12,524,696,882
Commercial Partial-Claim	Reported by commercial payers to the Center plus actuarial estimates for carve out categories	\$4,921,258,426
Non-TME Filers (with Massachusetts contracts)	Actuarial estimation from CMS Medical Loss Ratio Annual Reporting data, 2011	\$42,067,019
<b><i>Total Commercially Insured</i></b>		<b><i>\$17,488,022,328</i></b>

Note: Please see Data Appendix for detailed information.

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## Public Coverage

In addition to expenditures by private health insurance carriers and their members, THCE will also include expenditures from public coverage and programs, including MassHealth Managed Care Organizations (MCOs), Commonwealth Care MCOs, MassHealth, Medicare, Health Safety Net (HSN), Medical Security Program, and Veteran Affairs. Further detail on each public program and its data source is described below.

### MassHealth MCOs / Commonwealth Care MCOs

MassHealth is a state-run public health insurance program for certain eligible low-income residents of Massachusetts. It is Massachusetts' Medicaid program and Children's Health Insurance Program (CHIP) combined into one. MassHealth is a joint state and federal insurance program that offers various coverage types based on eligible members' income, health status, and other factors. In Massachusetts, Medicaid-eligible residents can choose to enroll in a MassHealth MCO which is a private health plan that contracts directly with providers and manages the care of its members.

Commonwealth Care is a complementary state insurance program which provides coverage to low and moderate income residents up to 300% of the federal poverty level, who otherwise do not have health insurance through MassHealth. The plans are offered by several private health insurance companies. For the purposes of calculating THCE, the primary data source for both MassHealth MCOs and Commonwealth Care MCOs will come from these private health insurance companies who file TME data and APCD claims data directly with the Center.

The primary data source for both Medicaid MCO and Commonwealth Care MCO expenditures is the TME data filed with the Center. Commercial payers who offer these two types of health insurance plans are required to submit this data to the Center annually. Under the Patient Protection and Affordable Care Act, Commonwealth Care will end in 2014, as eligible members will qualify for other public programs or premium tax credits.<sup>5</sup> The expenditures from these programs will be included in the THCE calculation in future years.

### MassHealth

Many MassHealth members receive health coverage through a MassHealth managed care provider. Alternatively, members may elect to participate in the MassHealth managed Primary Care Clinician (PCC) Plan. Some members, in specific situations, may enroll in non-managed care plans, which are referred to as the Fee-for-Service (FFS) plans. For MassHealth PCC members, their mental health and substance abuse services are covered through the Massachusetts Behavioral Health Partnership (MBHP), a managed behavioral health plan.

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<sup>5</sup> Commonwealth Care will end when the Affordable Care Act takes effect on January 1, 2014. Some Commonwealth Care members will qualify for a new MassHealth program called CarePlus offering benefits similar to Commonwealth Care. Others may qualify for federal and state financial assistance to help pay for Qualified Health Plans purchased through the Commonwealth Health Insurance Connector Authority.

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In addition, MassHealth offers two types of managed care programs for eligible seniors: the Senior Care Options (SCO) program and the Elder Service Plans as part of the Programs of All-inclusive Care for the Elderly (PACE/ESP). SCO is a comprehensive health plan that covers all of the services reimbursable under Medicare and MassHealth through a senior care organization and its network of providers. The SCO program covers an integrated and complete package of health care and social services for eligible low-income seniors aged 65 or older. The PACE/ESP program, which functions as both provider and plan, provides comprehensive medical and social services to eligible members aged 55 or older so that they can live in their own homes and communities instead of in nursing homes.

The Center will work closely with MassHealth to calculate expenditures of these MassHealth programs including patient cost-sharing and the non-claim based payments made to providers.

## Medicare

Medicare is a health insurance program for people age 65 or older, people under 65 with certain disabilities, and people of all ages with End-Stage Renal Disease. The Medicare data source available for use in the Center's THCE calculation varies depending on the type of Medicare program.

Medicare Part A covers inpatient hospital services, skilled nursing services, home health care, and hospice care. Medicare Part B provides coverage for physician services (e.g. office visits and surgeries), laboratory tests, and durable medical equipment (e.g. wheelchairs and walkers). Medicare beneficiaries can also obtain prescription drug coverage through the Medicare Prescription Drug Plan (Part D) offered by private companies or as part of a Medicare Advantage plan. The primary data source for Massachusetts beneficiaries' expenditures on Medicare Parts A, B and D will be summary statistics provided to the Center by CMS.

The Medicare Advantage Plan (Part C) is a type of Medicare health plan offered by a private health insurance company that contracts with Medicare to provide beneficiaries with all Part A and Part B benefits. Most Medicare Advantage plans also include prescription drug coverage. The primary data source for the Medicare Advantage plans will be the TME data and the APCD claims data that are submitted directly to the Center by commercial payers offering these products

## Health Safety Net

The Health Safety Net (HSN) pays acute care hospitals and community health centers for medically necessary health care services provided to eligible low-income uninsured and underinsured Massachusetts residents. The HSN also reimburses Massachusetts acute hospitals for a portion of the cost of emergency department services provided to uninsured patients when the patients' accounts prove uncollectable. The primary data source for these expenditures will be the HSN annual report.

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## Medical Security Program

The Medical Security Program (MSP) is for Massachusetts residents who are receiving unemployment insurance benefits. The MSP provides assistance with the cost of existing health insurance premiums or by covering the cost of actual medical expenses. The primary data source for this element will be the reported annual expenditures from the Department of Unemployment Assistance.

## Veterans Affairs

Veterans Affairs covers health expenditures made on behalf of veterans living within Massachusetts. The primary data source for this element will be the annual reported expenditures of “Medical Care” by the National Center for Veteran Analysis and Statistics.<sup>6</sup>

A summary of 2011 total spending for public coverage is presented below.

Category	Data Source	2011 Total Spending
<b>Public Coverage</b>		
MassHealth MCOs / Commonwealth Care MCOs	Reported by commercial payers to CHIA	\$3,124,152,459
MassHealth (PCC, FFS, PACE, SCO, and Other)	Sourced from MassHealth’s claims data warehouse (CY2011)	\$9,314,764,088
Medicare Advantage	Reported by commercial payers to CHIA	\$2,636,484,159
Medicare Parts A and B	CMS data summary to CHIA	\$10,473,706,952
Medicare Part D	CMS data summary to CHIA	\$1,853,261,954
HSN FY2011 Payments	HSN financial report	\$418,000,000
Medical Security Program	Department of Unemployment Assistance (SFY11)	\$163,217,554
Veterans Affairs	National Center for Veteran Analysis and Statistics (FY11)	\$845,264,446
<b>Total Public Coverage</b>		<b>\$28,828,851,613</b>

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<sup>6</sup> Spending Information from Veterans Affairs is available at <http://www.va.gov/vetdata/Expenditures.asp> (accessed: December 10, 2013)

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## Net Cost of Private Health Insurance

The third component of THCE is the net cost of private health insurance (NCPHI).<sup>7</sup> This element captures the costs to Massachusetts residents associated with the administration of private health insurance. Chapter 224 defines NCPHI as “the difference between health premiums earned and benefits incurred, which shall consist of: (i) all categories of administrative expenditures, as included in medical loss ratio regulations promulgated by the Division of Insurance; (ii) net additions to reserves; (iii) rate credits and dividends; and (iv) profits or losses, or as otherwise defined by regulations promulgated by the Center under chapter 12C.” The Center will calculate NCPHI for all Massachusetts residents, both those who are covered by private health insurance licensed by the Massachusetts Division of Insurance (DOI), and those obtaining coverage through out-of-state insurance plans. NCPHI will also include residents enrolling in private managed care plans of Medicare and Medicaid, but will exclude out-of-state residents covered under Massachusetts-based insurance plans.

Because of substantial differences among segments of the Massachusetts health insurance market, NCPHI will be calculated on a PMPM basis separately for the five different market segments: (1) merged market; (2) large group fully-insured; (3) Medicare Advantage; (4) Medicaid MCOs and Commonwealth Care; and (5) self-insured. Each segment’s PMPM amount will then be multiplied by the Massachusetts population in each segment to derive the total NCPHI. The methodology and data sources for the calculation of NCPHI for each market segment are described below.

### Merged Market

The merged market includes both individual and small group markets.<sup>8</sup> Data for administrative expenses in this market will be sourced from the Massachusetts medical loss ratio (MMLR) reports, filed directly by insurance carriers with DOI. This data is reviewed by DOI and serves as the basis for actual rebates to consumers. For the merged market, NCPHI will be calculated as the direct premium earned less incurred claims less rebates paid plus allowable fraud deduction expense.

*NCPHI=*

*Direct Premium Earned-Incurred Claims -Rebate+Allowable Fraud Deduction Expense*

*NCPHI PMPM=  $\frac{NCPHI}{(Life\ Years *12)}$*

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<sup>7</sup> The methodology of calculating NCPHI described in this section is developed by the Center’s actuarial consultant from Oliver Wyman Company.

<sup>8</sup> M.G.L. c. 176J allows individuals to purchase coverage in the small group health insurance market (creating the “merged market”) and applies the small group insurance laws to both small group and individual plans. An employer whose has 1 to 50 employees is eligible to purchase insurance in the small group market.

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## Large Group Fully-Insured Market<sup>9</sup>

The Center will utilize the Supplemental Health Care Exhibit (SHCE) from the National Association of Insurance Commissioners to derive the NCPHI of the large group fully insured market.<sup>10</sup> The SHCE is available sooner than federal MLR reports, meeting the Center’s timeline for the initial THCE calculation. The data elements that will be used in the calculation are detailed below:

*NCPHI*=

*Health Premiums Earned+Net Reinsurance Premiums Earned+Other Premium Adjustments+Risk Revenue - Total Incurred Claims+Deductible Fraud & Abuse Expense -Net Reinsurance Claims Incurred -Other Claims Adjustments -Estimated Rebates Unpaid Current Year*

*NCPHI PMPM*=  $\frac{NCPHI}{(Member\ Months)}$

## Medicare Advantage

Medicare Advantage, Medicaid MCO and Commonwealth Care MCO plans are not separately reported in SHCE. Therefore, the Center will use the Exhibit of Premiums, Enrollment and Utilization page (State Page 29) of each insurance carrier’s Annual Statutory Financial Statements for the state of Massachusetts, for those carriers that file the Health Annual Statutory Financial Statement.<sup>11</sup> The formula will be:

*NCPHI PMPM*=  $\frac{(Health\ Premiums\ Earned - Amount\ Incurred\ for\ Provision\ of\ Health\ Care\ Services)}{(Current\ Year\ Member\ Months)}$

There will be a minimum medical loss ratio requirement for Medicare Advantage plans starting in 2014. The Center will reconsider the data source for the calculation of NCPHI for Medicare Advantage plans at that time.

## Medicaid MCO / Commonwealth Care MCO

The Center will utilize a similar approach to that used for the Medicare Advantage program to calculate the NCPHI for Medicaid MCOs and the Commonwealth Care MCOs. The information from the Health Annual Statutory Financial Statements will be used to calculate the PMPM amount of NCPHI for Medicaid MCOs and Commonwealth Care MCOs.

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<sup>9</sup> In the calculation of NCPHI, a large group means an employer with more than 51 employees.

<sup>10</sup> In the future, the Center may use “Annual Comprehensive Financial Statement for Carriers’ Insured Health Plans” as filed with DOI once the availability and quality of the data meet the THCE reporting requirements. The Center will work closely with DOI to ensure the data meets the requirements of NCPHI calculation.

<sup>11</sup> Each applicable insurance carrier’s Annual Statutory Financial Statement State Page 29 (Massachusetts) will be used to derive NCPHI for Medicare Advantage. This data source reconciles to the audited nationwide financial statement (page 7), allowing for validation of accuracy.

For the first year of THCE, the Center will assume that Commonwealth Care NCPHI PMPM will be similar to Medicaid MCOs, as no separate Commonwealth Care data source could be determined. The proportion of the population enrolled in Commonwealth Care will be applied to this amount. The Commonwealth Care program will be eliminated in 2014, so the future THCE calculation of this population's NCPHI will only include Medicaid MCOs and other applicable MassHealth programs.

$$NCPHI\ PMPM = \frac{(Health\ Premiums\ Earned - Amount\ Incurred\ for\ Provision\ of\ Health\ Care\ Services)}{(Current\ Year\ Member\ Months)}$$

### Self-insured

The NCPHI in the self-insured market will be calculated using the SHCE, which will meet the Center's timeline for THCE calculation. The formula will be:

$$NCPHI\ PMPM = \frac{Income\ from\ Fees\ of\ Uninsured\ Plans}{(Member\ Months)}$$

For future years, the Center will consider using self-insured data that is filed with DOI. At this time, however, DOI has expressed that the data quality may be a concern.

A summary of NCPHI for 2011 is presented below.

Category	Data Source	2011 Total Spending
<b>Net Cost of Private Health Insurance</b>		
Merged Market	Massachusetts Medical Loss Ratio Reports	\$427,705,805
Large Group	Supplemental Health Care Exhibit	\$730,460,344
Medicare Advantage	Annual Statutory Financial Statement	\$299,117,420
Medicaid MCO/Commonwealth Care	Annual Statutory Financial Statement	\$323,645,004
Self-insured	Supplemental Health Care Exhibit	\$468,616,025
<b>Total NCPHI</b>		<b>\$2,249,544,596</b>

A summary of the THCE model for 2011 is presented below.

Category	2011
Total Public and Private Spending	\$46,316,873,940
Net Cost of Private Health Insurance	\$2,249,544,596
<b>Total Health Care Expenditures</b>	<b>\$48,566,418,537</b>
Total Massachusetts Population (2011)	6,607,003
<b>Total Health Care Expenditures Per Capita</b>	<b>\$7,351</b>

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## Health Care Expenditures Not in THCE

The Center acknowledges that there are certain important elements of health care spending that have not been included in the THCE model due to the lack of available data. As previously discussed, the model was developed to meet the specific purpose of calculating total health care expenditures of Massachusetts residents that can be accurately tracked year over year, based on data that is available within the time parameters of the THCE calculation. Listed below are some of the elements that are not included:

### Payments from dental insurance including patient cost-sharing

Some dental insurance carriers have submitted their data to the Center's APCD, but this data has not yet been validated. The Center will work with dental insurance carriers to ensure data quality and accuracy.

### Payments from vision insurance including patient cost-sharing

There is no data available on vision insurance that is regularly reported by insurance carriers and for which the data requirements and quality meet the need of the THCE calculation.

### Workers' Compensation

Workers' Compensation is a type of insurance paid by employers to provide benefits (e.g. wage replacement and medical expenses) to employees who become ill or injured on the job. Workers' Compensation is normally financed through state insurance funds (i.e. Workers' Compensation Trust Fund), private insurance, and self-insurance. The medical expense data from Workers' Compensation is not collected by the Center's APCD. Available data on Workers' Compensation is neither current nor released regularly and therefore does not meet the reporting timeframe of THCE.

### Out-of-pocket spending for services not covered by health insurance

Patients' out-of-pocket payments to providers that are not covered by health insurance are not included in the THCE model due to the lack of a data source. Some examples include spending for non-prescription drugs, over-the-counter non-durable medical products and equipment, cosmetic procedures and payments by individuals to long-term care providers and in some cases payments to behavioral health providers. Payments for services that exceed a patient's annual maximum insurance benefit are similarly not included in THCE due to a lack of data source.

### Health insurance offered or administered by out-of-state insurance companies

Health care expenditures for Massachusetts residents covered by a self-insured plan administered by an out-of-state third party administrator or by a fully-insured plan offered by an insurance carrier that is not licensed to sell insurance in Massachusetts are not included. The Center has no ability to collect information from these out-of-state insurance companies and third party administrators.

### Other government programs

Due to data timing and availability, expenditures from certain government programs are not included in the THCE model. Examples of these programs include: TriCare from the Department of Defense, Indian Health Services, Substance Abuse and Mental Health Services Administration (SAMHSA), and similar programs.

The Center intends to consider adding these elements in the future if accurate and timely data sources can be identified. In addition, the Center plans to consider other means of assessing spending in areas such as out-of-pocket expenditures for non-covered services by conducting periodic surveys and trends analysis outside of the THCE measure.

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## Other Measures of Health Care Expenditures

The Center recognizes that there are other existing measures of health care expenditures, such as the CMS-reported National Health Expenditure Accounts (NHEA) and the state level of that report, State Health Expenditure Accounts (SHEA). These reports are broader in scope, capturing elements of health care expenditures that go beyond those included in the Center's THCE calculation. The differences in scope can be attributed to different purposes for which the measures were designed.

As part of the NHEA, SHEA gathers expenditure information through industry and household surveys supplemented by Medicare and Medicaid data and is intended to allow for comparisons of health expenditures from state to state and national trends over time. Therefore, it includes a broader array of elements than are included in the THCE model. Some of these differences include certain hospital revenues (e.g. donations, investment income, and research grants), self-pay nursing facility revenues, and other categories mentioned above. In contrast, the Center's THCE model has been designed for the specific purposes of monitoring state health care cost growth and identifying cost drivers which may threaten the Commonwealth's ability to meet the health care cost growth benchmark.

The NHEA and SHEA reports are based, in part, upon surveys of the health care industry that are conducted in a comprehensive manner on a five-year basis with partial revisions made during the intervening years. There is also a lag in the reporting timeframe of NHEA and SHEA releases. As an example, SHEA is released on a five-year basis and the reported year lags three years behind the release year (e.g. 2009 data was released in 2012). The Center compiles the data for the THCE model on an annual basis with the information reported directly from identifiable public and private sources, to facilitate tracking the growth in health status adjusted TME at a payer, provider and provider organization-specific level.

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## Conclusion

The Commonwealth's initiative to link the growth in health care spending with the projected growth in gross state product is a first-in-the-nation approach to health care cost reform. The calculation of THCE represents an important opportunity for the Commonwealth to measure the progress of its cost containment efforts. This type of evaluation is essential as Massachusetts continues to develop innovative solutions to health policy challenges.

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## Glossary of Terms

**Total Health Care Expenditures (THCE):** The annual per capita sum of all health care expenditures in the Commonwealth from public and private sources, including: (i) all categories of medical expenses and all non-claims related payments to providers, as included in the health status adjusted total medical expenses reported by the Center for Health Information and Analysis (Center); (ii) all patient cost-sharing amounts, such as deductibles and copayments; and (iii) the net cost of private health insurance, or as otherwise defined in regulations promulgated by the Center.

**Health Care Cost Growth Benchmark:** The projected annual percentage change in total health care expenditures in the Commonwealth, as established by the Health Policy Commission.

**Total Medical Expenses (TME):** Total Medical Expenses is the total cost of care for a patient population based on allowed claims for all categories of care including both medical claims and all non-claims payments, expressed on a per member per month (PMPM) basis.

**Net Cost of Private Health Insurance:** The difference between health premiums earned and benefits incurred, which shall consist of: (i) all categories of administrative expenditures, as included in medical loss ratio regulations promulgated by the Massachusetts Division of Insurance; (ii) net additions to reserves; (iii) rate credits and dividends; and (iv) profits or losses, or as otherwise defined by regulations promulgated by the Center for Health Information and Analysis.

**All Payer Claims Database (APCD):** The All Payer Claims Database is a database administered by the Center and contains medical, pharmacy, and dental claims and member information for insured Massachusetts residents. Claims-level information is collected from commercial payers, Medicare, and Medicaid.

**Growth Rate of Potential Gross State Product:** A projected annual growth rate of the Commonwealth's economy. The Secretary of Administration and Finance and the House and Senate Committees on Ways and Means jointly develop a growth rate of potential gross state product for the ensuing calendar year, which shall be agreed to by the Secretary and the Committees.





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