

**Actuarial Assessment of Massachusetts House Bill 4432:
“An Act Relative to Mental Health Parity”**

Prepared for

**Division of Health Care Finance and Policy
Commonwealth of Massachusetts**

Prepared by

Compass Health Analytics, Inc.

July 2, 2008



This report was prepared by James P. Highland, PhD with assistance from John C. Kelly, FSA, MBA, Andrea Clark, MS, and Joshua Roberts.

**Actuarial Assessment of Massachusetts House Bill 4432:
“An Act Relative to Mental Health Parity”**

Table of Contents

Executive Summary	i
Introduction.....	1
Summary of Current and Proposed Legal Requirement	1
Overview of Impact Analysis	2
Analysis/Calculations	3
Affected Population	3
Baseline Benefits and Costs.....	3
Parity Impact Factors	5
Evaluating Parity Impact Factors.....	10
Administrative Costs.....	13
Results.....	13

Actuarial Assessment of Massachusetts House Bill 4432: “An Act Relative to Mental Health Parity”

Executive Summary

Compass Health Analytics, Inc. was engaged by the Division of Health Care Finance and Policy (“the Division”) to estimate the cost impact of HB4423, “An Act Relative to Mental Health Parity” for the period 2008-2012.

Under the Commonwealth’s current law (Chapter 80 of 2000), benefit parity exists for nine “biologically-based” mental health conditions for adults, and for any conditions in children (18 and under) which limit functioning and social interaction. Conditions specified under this law are covered without annual or lifetime benefit limits and are also at parity with regard to cost sharing. Other conditions not included in these requirements must have coverage for at least 60 inpatient days and 24 outpatient visits. Currently benefits for alcoholism and chemical dependency are mandated to include 30 days of inpatient treatment and \$500 for outpatient treatment. HB4432 extends this partial parity to full parity for both mental health and substance abuse services, requiring nondiscriminatory coverage for the diagnosis and medically necessary and active treatment of mental disorders and alcoholism or other drug abuse or dependence disorders as described in the most recent edition of the Diagnostic and Statistical Manual (DSM) of Mental Disorders. No discriminatory lifetime limits, annual limits, or cost sharing would be allowed.

The fully-insured under-65 population to which benefit mandates are applicable was estimated to be an average of 2.32 million members for calendar year 2007, increasing to 2.36 million by 2012. Survey data were collected by the Division from four major health plans operating in Massachusetts representing approximately 85% of the fully-insured under-65 market. The plans were asked about behavioral health (mental health and substance abuse) benefit structures, their arrangements and methods for managing behavioral health, behavioral health costs, and the frequencies with which behavioral health benefit limits have been exceeded. Approximate costs for fully-insured behavioral health services for 2007 were \$239 million, \$272 million with administrative costs included. Two additional key findings were that current inpatient limits for mental health and substance abuse (MH/SA) are not materially binding and that 2 of the surveyed plans apply no limits to services for children under the current law.

Research and actuarial studies estimate that the cost impact of parity implementations, excluding a managed care response by plans, are in the range of 0.4% to 0.6% of overall healthcare premiums. These percentage estimates were judged too high to be applicable to HB4432 for the following reasons:

- (i) A complete lack of managed care response is not plausible. Particularly for non-biologically-based services, for which plans have relied on benefit limits to restrain

excessive costs, it is assumed that health plans would employ strategies manage utilization of these services if HB4432 were to pass.

(ii) Significant portions of benefits typically affected by parity laws are already covered by Chapter 80 (especially services for biologically-based conditions for adults) and so we would expect the impact to be smaller than when the baseline benefits are further from full parity. Based on 2007 claim data provided by the plans, approximately 29% of current claims spending is for conditions not covered at full parity.

The same sources of information indicate that after allowing for a care management response by the plans, the impact of parity implementation may be slightly above zero (research studies with data from 1997-2002) or may be in the range of 0.1% to 0.16% (more recent actuarial estimates). The lower of these estimates are assessed to be too low to be applicable to HB4432 for the following reasons:

(i) Outpatient substance abuse benefits in Massachusetts, at a \$500 per person cap, are below the pre-parity levels present in the other contexts in which parity was implemented and evaluated. We would therefore expect a larger response than has been measured in previous studies.

(ii) The managed care response for mental health benefits that contributed to the findings of studies for parity implementations 8-10 years ago may not be fully realizable in today's climate in which the techniques that achieved these reductions have already been applied at least in part by application to those benefits affected by Chapter 80 and most possible savings already achieved. An important finding of the survey of Massachusetts health plans is that these plans already use available tools for behavioral health management.

The foregoing discussion asserts that factors near zero are likely to be too low and those in the range of 0.4% to 0.6% are likely to be too high. This would suggest that in the current Massachusetts environment with the existence of Chapter 80, percent of premium factors in the range of 0.1% to 0.3% are more likely. Exhibit E-1 presents the estimated health care premium impacts for 2008 to 2012, based on applying the 0.1% to 0.3% percent of premium factors to estimated 2007 fully insured premiums and trending the result forward for 2008 to 2012. The cost estimates are consistent with significant percentage increases in services paid for through insurance for the relatively narrow range of medically necessary benefits not already subject to the parity provisions of Chapter 80.

Exhibit E-1

Estimated Cost Impact of HB4322 on Fully-Insured Health Care Premiums 2008-2012

Annual Trend in Medical Claims	1.065					
	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>All 5 Years</u>
Fully Insured Enrollment	2,329,685	2,329,406	2,344,491	2,356,243	2,358,085	
Low Scenario						
Annual Impact Claims (000,000s)	\$ 11.4	\$ 12.1	\$ 13.0	\$ 13.9	\$ 14.8	\$ 65.2
Annual Impact Administration (000,000s)	\$ 1.6	\$ 1.7	\$ 1.8	\$ 1.9	\$ 2.0	\$ 8.9
Annual Impact Total (000,000s)	\$ 12.9	\$ 13.8	\$ 14.7	\$ 15.8	\$ 16.8	\$ 74.0
Premium Impact (PMPM)	\$ 0.46	\$ 0.49	\$ 0.52	\$ 0.56	\$ 0.59	\$ 0.53
Mid Scenario						
Annual Impact Claims (000,000s)	\$ 22.7	\$ 24.2	\$ 26.0	\$ 27.8	\$ 29.6	\$ 130.3
Annual Impact Administration (000,000s)	\$ 3.1	\$ 3.3	\$ 3.5	\$ 3.8	\$ 4.0	\$ 17.8
Annual Impact Total (000,000s)	\$ 25.8	\$ 27.5	\$ 29.5	\$ 31.6	\$ 33.7	\$ 148.1
Premium Impact (PMPM)	\$ 0.92	\$ 0.98	\$ 1.05	\$ 1.12	\$ 1.19	\$ 1.05
High Scenario						
Annual Impact Claims (000,000s)	\$ 34.1	\$ 36.3	\$ 38.9	\$ 41.7	\$ 44.4	\$ 195.5
Annual Impact Administration (000,000s)	\$ 4.7	\$ 5.0	\$ 5.3	\$ 5.7	\$ 6.1	\$ 26.7
Annual Impact Total (000,000s)	\$ 38.8	\$ 41.3	\$ 44.2	\$ 47.4	\$ 50.5	\$ 222.1
Premium Impact (PMPM)	\$ 1.39	\$ 1.48	\$ 1.57	\$ 1.67	\$ 1.78	\$ 1.58

Actuarial Assessment of Massachusetts House Bill 4432: “An Act Relative to Mental Health Parity”

Introduction

Compass Health Analytics, Inc. was engaged by the Division of Health Care Finance and Policy (“the Division”) to estimate the cost impact of HB4423, “An Act Relative to Mental Health Parity” for the period 2008-2012. The term parity refers to a policy in which specified behavioral health (mental health and substance abuse) benefits are covered in a nondiscriminatory manner relative to coverage of benefits for general medical services. This typically includes elimination of annual or lifetime limits that do not apply to general medical services, limiting cost sharing provisions to the levels used for general medical services, and removing annual limits on service use such as annual inpatient day and outpatient visit caps. “Full parity” would require removal from regulated fully-insured health insurance benefit packages all such provisions that are not also applicable to general medical services.

Projecting the cost impact of parity provisions requires taking care about the definition of “parity” and in the use of evidence from other settings where parity laws were introduced, drawing clear distinctions about the varieties of partial parity that exist in practice. Based on legislation passed in 2000 (Chapter 80 of the Acts of 2000), Massachusetts currently has partial parity for mental health services and does not have parity for substance abuse services, though there is a legal minimum substance abuse benefit.

Summary of Current and Proposed Legal Requirement

The requirements of both the current law and HB 4432 specify mandated benefits for the fully-insured, under-65 commercial insurance products subject to regulation by the Commonwealth’s Division of Insurance (DOI). The requirements do not apply to commercial self-insured products, which are not regulated by the DOI.

Under the Commonwealth’s current law (Chapter 80 of 2000), benefit parity exists for nine “biologically-based” mental health conditions for adults (schizophrenia, schizoaffective disorder, major depressive disorder, bipolar disorder, paranoia and other psychotic disorders, obsessive-compulsive disorder, panic disorder, delirium and dementia, and affective disorders), and for any conditions in children (18 and under) which limit functioning and social interaction. Conditions specified under this law are covered without annual or lifetime benefit limits and are also at parity with regard to cost sharing pursuant to DOI Bulletin 2000-10. Other conditions not included in the requirements above must have coverage for at least 60 inpatient days and 24 outpatient

visits. Currently benefits for alcoholism and chemical dependency are mandated to include 30 days of inpatient treatment and \$500 for outpatient treatment, except when treatment is also being provided in conjunction with treatment for mental health disorders.

HB4432 extends this partial parity to full parity for both mental health and substance abuse services, requiring nondiscriminatory coverage for the diagnosis and medically necessary and active treatment of mental disorders and alcoholism or other drug abuse or dependence disorders as described in the most recent edition of the Diagnostic and Statistical Manual (DSM) of Mental Disorders. Coverage consists of a range of inpatient, intermediate, and outpatient services providing non-custodial treatment in the least restrictive, clinically appropriate setting. The key differences between the current law and HB4432 are:

- HB4432 expands parity requirements for adults to medically necessary treatment for diagnoses in the DSM-IV, which would have the effect of eliminating the limits of 60 inpatient days and 24 outpatient visits for “non-biologically based” conditions (those not in the list of nine biologically-based conditions in the current law).
- Nominal change in the standard of care for children from the current limitation in functioning and social interaction to medical necessity.
- Following from the foregoing, medically necessary treatment for alcoholism and chemical dependency must be covered at full parity for both children and adults.
- No discriminatory lifetime limits, annual limits, or cost sharing would be allowed.¹

Overview of Impact Analysis

The steps required to identify the costs implied by this mandate are as follows.

- 1.) Estimate the size of the affected insured population.
- 2.) Estimate the baseline claims costs for the affected benefits.
- 3.) Estimate the range of potential impact factors on claims costs due to the incremental impact of the mandate’s required benefits.
- 4.) Estimate the impact administrative expenses of the relevant insurers.

Following these steps, estimates were done for the entire covered population for a five-year timeframe (2008-2012) for a range of “low case” to “high case” scenarios.

¹ This assumes that the Division of Insurance’s previous ruling related to cost sharing parity in DOI Bulletin 2000-10 would apply to the new law as well.

Analysis/Calculations

Below we describe the basic steps taken to perform the projections.

Affected Population

The objective for this analysis was to develop Massachusetts population projections for purposes of analyzing the impact of HB4432, which required estimation of the number of commercially fully insured individuals under 65 years of age. The fully-insured under-65 population for calendar year 2007 was estimated to be an average of 2.32 million members, increasing to 2.36 million by 2012. To project the Massachusetts population out to 2012, we estimated an annual growth rate of 0.4% per year, based on several population projections on the U.S. Census Bureau web site. Similarly, the growth in the age 65+ population was estimated as 1.5% per year through 2010 and 2.0% in subsequent years, again based on Census projections. The residual growth was allocated between age ranges 0-18 and 19-64.

Baseline Benefits and Costs

Survey data were collected by the Division from major health plans operating in Massachusetts. The health plans included BlueCross BlueShield of Massachusetts, Harvard Pilgrim Healthcare, Tufts Health Plan, and Fallon Community Health Plan². The plans responding to the cost survey represent approximately 85% of the fully-insured under-65 market. The plans were asked about behavioral health (mental health and substance abuse) benefit structures, their arrangements and methods for managing behavioral health, behavioral health costs, and the frequencies with which behavioral health benefit limits have been exceeded. In order to promote consistency in responses, the Division provided detailed instructions for the data extraction required to answer the cost and utilization questions.

Benefit structures were provided in the survey responses for typical and/or predominant products. These responses confirmed that for those services not subject to the existing mental health mandate (e.g., non-biologically-based conditions for adults), the statutory minimum benefit is standard, that is, for mental health a maximum of 60 inpatient days and 24 outpatient visits. Similarly, the standard drug and alcohol benefit in these plans is the statutory minimum of 30 inpatient days and \$500 for outpatient services. With respect to intermediate services for behavioral health (e.g., day treatment, residential treatment, intensive outpatient services), which are required by both the current statute and HB4432, two of the plans apply use of these services to the inpatient benefit limit at a 2:1 ratio, and one plan provides a separate 120 day limit benefit for these services in addition to the inpatient and outpatient benefits. Cost sharing ranges from \$10 to \$25 per visit for in-network outpatient services and \$200 to \$500 per admission for inpatient stays.

² A partial submission from Fallon Health Plan was received. This information was not readily combinable with the other submissions but it was reviewed and helped to form judgments about the overall marketplace.

Cost data on the survey were broken into children and adults (19 and over). It was requested that data on adults be divided into costs associated with biologically-based conditions (as defined in the statute) and other conditions. Similarly, it was requested that data on children be broken into cases in which functional impairment was present (as defined in the statute) and other cases. Each of these sub-categories was also divided into inpatient, intermediate, and outpatient services.

Of the plans responding, two plans provided overall data for children without distinguishing between cases that involved limits in function and social interaction and those that did not. In both cases this distinction was not made because these plans interpret all medically necessary services provided to children as meeting the standard of limiting function and social interaction. A third plan did make this distinction in its cost reporting but did not respond to the question in the survey asking how this distinction was made in practice in their care management and claim operations. Due to the need to aggregate data across plans, and the fact that the reliability of the distinction was not verifiable, the data for children were combined into a single category for the third plan as well.³

The results from these responses were aggregated and adjusted to reflect the full estimated population of fully-insured, under-65 enrollees in Massachusetts, and are presented in the Exhibit 1 below.

Exhibit 1

Estimated Behavioral Health Claim Expenditures for Massachusetts Fully-Insured Under-65 Enrollees
Adjusted to All Fully-Insured Based on Calendar 2007 Claim Extracts From Plans Representing 85% of the Fully-Insured Market Segment

	Costs in Millions of Dollars			
	Age of Recipient on DOS			Overall Total
	0-18	19-64	All Adults	
Ave Enrollment	598,137	1,726,488	1,726,488	2,324,624
Service Category	Bio Based?			Overall Total
	All Children	Yes	No	
Inpatient MH	\$ 8.4	\$ 19.8	\$ 1.6	\$ 21.4
Outpatient MH	\$ 41.4	\$ 103.8	\$ 38.5	\$ 142.3
Intermediate MH	\$ 2.1	\$ 5.3	\$ 0.5	\$ 5.8
Total Mental Health	\$ 51.8	\$ 128.9	\$ 40.5	\$ 169.5
Inpatient SA	\$ 0.5	\$ 4.1	\$ 4.6	\$ 8.7
Outpatient SA	\$ 0.4	\$ 1.2	\$ 5.0	\$ 6.2
Intermediate SA	\$ 0.2	\$ 0.8	\$ 1.9	\$ 2.7
Total Substance Abuse	\$ 1.0	\$ 6.1	\$ 11.5	\$ 17.6
Total	\$ 52.8	\$ 135.0	\$ 52.1	\$ 187.1

An important observation to make about these results is that most of the costs are already covered at parity. The “Adults – Not Biologically-Based” mental health costs would be affected by HB4432, which represents only 17% of the total mental health costs. The adult biologically-based mental health services are already at parity as a result of Chapter 80 of the 2000 laws and represent 58% of current mental health costs. As noted above, for most of the market, mental health services for children are already administered at full parity and so would not be affected by HB4432. With respect to mental health services, it is primarily the approximately \$41 million in adult non-biologically-based costs that

³ As discussed in the “Results” section, children’s outpatient mental health data was split evenly into falling inside and outside the Chapter 80 mandate for one of the validation analyses conducted.

would be impacted by HB4432. Substance abuse services for all ages would be impacted. These costs currently constitute just under 8% of total costs, or approximately \$19 million.

Parity Impact Factors

Based on the results of the descriptive cost analysis in Exhibit 1 above, the primary analytical questions to assess the impact of HB4432 were:

1. From a baseline mental health benefit of 60 inpatient days and 24 outpatient visits, with co-pays in the range of \$10-\$25, what additional costs will be added by full parity to the current claims spending on non-biologically based conditions in adults currently at approximately \$41 million?
2. From a baseline substance abuse benefit of 30 inpatient days and \$500 in outpatient services, what additional costs will be added by full parity to the current claims spending for these services of approximately \$19 million?

In estimating the impact in the future of implementing HB4432, we need to apply a factor to the baseline costs that represents the estimated change in costs that will be produced by the bill's provisions, and thus calculate the estimated costs under the bill. The change in costs (projected less baseline) is the impact estimate (or range of estimates) we need to produce. We relied on three sources of information to address these questions. First, the survey of plans contained information about the number of persons hitting the existing benefit limits, which provides some indication of the degree to which dropping the limits will impact costs. Second, we consulted an expert panel identified to provide input for this study⁴. Third, we examined previous studies evaluating the impact of both actual and anticipated implementations of parity rules, including information on methodological approaches⁵.

Model parameters related to four dimensions instrumental to estimating the fiscal impact of HB4432 were investigated⁶:

1. Baseline estimates of insurance coverage and spending on claims and administration
2. Demand response to changes in benefit design
3. The impact of managed care on parity
4. The cross sector effects especially related to prescription drugs and medical cost offsets

⁴ The Division organized the Advisory Panel to provide consultation on development of the methodology for estimating the impacts of HB.4432. Richard Frank Ph.D. and Alisa Busch M.D, both of Harvard Medical School, provided expert advice to the study authors.

⁵ Frank RG, TG McGuire, L Bilheimer, et al. (2001) Estimating the Costs of Parity for Mental Health: Methods and Evidence. Results from a Robert Wood Johnson Foundation Workshop.

⁶ Decisions about parameter values were made independently after consultation with the expert panel.

Baseline results were discussed above and displayed in Exhibit 1. We accepted the Advisory Panel's recommendation that evidence for cross-sector effects (item 4) was insufficient to incorporate these effects into our estimates. The primary focus of the analysis was on determining appropriate parameter values for items 2 and 3.

The survey results on benefit limits provided useful information for the analysis. The results from the survey show that inpatient limits are for the most part not binding. For adults, exceeding either the inpatient mental health limit (60 days) or the inpatient drug & alcohol limit (30 days) is very rare, and neither occurred for a child in 2007. The inpatient mental health limit was exceeded for one adult and the inpatient drug & alcohol limit was exceeded by 7 adults or 0.0004% of members. Essentially the inpatient limits are not binding, and the implementation of parity rules would have no material impact on inpatient expenses.

The survey results show that outpatient visit benefit limits are binding for non-biologically-based conditions for adults and for substance abuse services for both adults and children. For adults with non-biologically related conditions (and thus subject to the 24 visit limit), approximately 3,000 persons, or 0.25% of members, had 24 visits paid for by the plans. Approximately 2,450 persons, or 0.20% of members, hit the \$500 outpatient substance abuse benefit limit. Since these limits are currently binding, it is reasonable to consider whether and by how much eliminating the associated benefit limits would increase claims expenses for Massachusetts insurers.

The research literature and other studies are another source we can examine in evaluating the impact of HB4432. In estimating the impact of HB4432 prospectively, we would ideally like to use carefully conducted retrospective studies assessing impact of actual parity implementations that meet the following criteria as closely as possible:

1. *Baseline Parity Requirements.* The baseline parity requirements of the settings used for the retrospective studies are similar to the current law in Massachusetts;
2. *Revised Parity Requirements.* The parity law implementation in the retrospective studies have similar requirements to HB4432;
3. *Study Quality.* The study or studies are well-conducted and have credible impact estimates – in particular they control for or have similar circumstances with respect to other factors that affect costs (such as underlying trend, other relevant laws, etc.)

To the extent that these criteria cannot be fully met, adjustments to and sensitivity analysis of the results from these studies may be necessary to arrive at reasonable estimates for HB4432. Application of factors could be done in aggregate across all mental health and substance abuse costs, or focusing on the individual components identified in the two analytical questions described above.

In order to identify factors for application to the baseline costs, the research literature can be utilized. The literature shows that the impact of benefit structures on behavioral health costs has evolved over time. The RAND Health Insurance Experiment in the 1970s

found that use of mental health services in an unmanaged indemnity insurance environment is more sensitive to the price paid by users of care (determined by cost sharing provisions of the benefits) than other medical care⁷. Differential benefit structures with visit limits and higher cost sharing have been one way that this issue was addressed historically. During the 1990s and into the current century, the advent of Managed Behavioral Health Organizations (MHBOs) and the management of behavioral health services through selective contracting, care management, and other techniques have brought spending for behavioral services as a share of health care costs down significantly⁸. Recent evidence suggests that the presence of both restrictive benefit limits and managed behavioral health is a “belt and suspenders” approach to containing behavioral health spending. Research studies examining the introduction of parity (i.e., the elimination of the older method of less generous utilization and cost-sharing benefits for behavioral health services) in contexts in which behavioral health is managed have not found the type of cost increases that occurred in the unmanaged indemnity insurance environments of the last century.

For example, a large federally-funded evaluation of the implementation of parity in the Federal Employees Health Benefit Plan (FEHBP) that by Executive Order began January 1, 2001 found little or no overall impact of implementing parity on overall health spending and small impacts on health plan claims costs.⁹ This study is an important benchmark for estimating the impact of HB4432 for several reasons:

- The form of parity that was implemented in the FEHBP was essentially the same as HB4432 – non-discriminatory, medically necessary coverage for diagnoses in DSM-IV.
- The baseline benefit arrangements in the plans studied, while not identical to the benefit structures available in Massachusetts currently, are similar enough that the results can be considered with some adjustment for differences in the baseline benefits. That is, the starting point of the parity implementation was different, but not dramatically so.
- The study was carefully performed by well-respected, credible researchers and included a large sample.

The approach taken in the FEHBP study included selection of nine plans, and matching of each with a comparison plan from a national self-insured claim database. Statistical techniques were used to control for some differences between the plans. Of the nine plans, seven showed growth in MH/SA spending after parity implementation that was lower than the spending growth in the comparison plans (which did not have parity

⁷ Manning WG, Wells KB, Buchanan J, et al (1989). Effects of Mental Health Insurance: Evidence From the Health Insurance Experiment. Santa Monica, Calif, RAND.

⁸ CA Ma, McGuire TG (1998). Cost and Incentives in a Behavioral Health Carve-out. *Health Affairs* 17(2): 53-67.

⁹ U. S. Department of Health and Human Services (2004), “Evaluation of Parity in the Federal Employees Health Benefits Program: Final Report,” <http://aspe.hhs.gov/daltcp/reports/parity.htm>. and Goldman, HH, RG Frank, MA Burnam et al. (2006). Behavioral Health Insurance Parity for Federal Employees. *New England Journal of Medicine* 354(13): 1378-1386. See also,

implementation). Results for four of these were statistically significant, and three were not. The remaining two plans showed slightly higher cost growth but neither was statistically significant. So costs grew after parity but in a way that was slower than or not distinguishable from cost growth in plans that did not implement parity.

Additional analysis in the study indicated that there was significant movement toward implementation of behavioral health carve-out vendors for the FEHBP plans but not for the comparison plans, which was judged to be a significant factor in the differential cost growth and the ability of the FEHBP plans to restrain cost growth at or below the cost growth of the comparison plans.

There are two important considerations in using the results of this study for estimating costs related to HB4432: Baseline behavioral benefits in the study's sampled plans and the "MBHO effect" just discussed. The existing Chapter 80 parity law already provides extensive parity requirements, as discussed above. While it is not possible from the published sources to understand the legal environments that the sample plans operated within, it is likely that in 2001-2002 that on average they were in environments with less extensive mental health parity requirements than those defined by Chapter 80. That would imply that the implementation of the FEHBP parity requirements would have constituted a bigger expansion of benefits than HB4432 requires, and thus the results of the study may overstate the cost implications. Since the study results related to overall health spending were essentially statistically zero, this would support the notion that HB4432 would not increase health care costs. However, the baseline substance abuse benefits in Massachusetts are generally less generous than the baseline benefits in the sampled plans, and so the impact of parity on substance abuse spending may be more significant than in the study's plans (seven of which had changes in substance abuse spending per enrollee relative to the comparison plans that were not statistically significant).

Moreover, given the movement toward carve-out vendors and the impact that this likely had on costs (see Ma and McGuire, *op. cit.*) during that period in our health care system's evolution, it is important to consider whether plans in Massachusetts currently have the same ability to use this lever on behavioral costs. Of the three Massachusetts health plans that submitted cost data for this study, one currently uses a carve-out vendor. The other two have used vendors in the past but now have moved most of these functions to internal staff. It would seem unlikely that these contracts would have been cancelled if the plans were not able to achieve similar cost restraint internally. The question of whether "low hanging fruit" exists now in the same way it did when the study was performed is important to consider – the use of care management techniques to counter the cost pressures of parity may not be present in the same way that it was during the study period. If true this would support the notion that the parameter values in the study findings understate the cost increasing implications of HB4432. The survey conducted for this evaluation of HB4432 found that plans in Massachusetts already use the following techniques to control behavioral costs:

- Prior authorization

- Required treatment plan
- Concurrent review
- Retrospective claim reviews

In addition, some plans use closed or preferred provider panels, behavioral case management, and behavioral disease management programs. The FEHBP study indicates that for the association plans in the study, 50% added treatment plans, 31% added prior authorization, and 27% added preferred panels after parity was required. For the other plans in the study approximately 10% to 20% added these care management techniques. With these techniques already applied in Massachusetts in 2007 the potential counter-pressure may be smaller.

Another example from the research literature is a study performed assessing the implementation of parity in Vermont¹⁰. This study found that parity resulted in an increase in behavioral health costs from their pre-parity level of approximately 4%, or 0.06% of total premium at that time. This parity law was implemented in the late 1990s and the same comments made above about the relevance of the FEHBP results for 2008 and HB4432 are applicable to this study as well.

Actuarial studies are another source of potential information to be applied to the HB4432 analysis. The disadvantage of these studies is that they are prospective estimation exercises rather than retrospective analyses. However, the manner in which the assumptions used in these studies have changed over time is instructive and represents a type of professional meta-consensus about the impact of parity provisions. For example, despite scoring a mental health parity bill at 4% of total premium in 1996, the Congressional Budget Office's most recent scoring of comprehensive parity legislation indicated the bill would increase premiums for group health insurance by an average of about 0.4 percent before accounting for responses of health plans, employers, and workers. CBO expects that those behavioral responses would offset 60 percent of the potential impact of the bill on total health plan costs.¹¹ This implies a net impact factor of approximately 0.16 percent. A 2007 actuarial study on the effects of legislation proposing to expand California parity from biologically-based conditions only to comprehensive parity (AB423) in 2007 estimated a 0.16 percent increase in total health care expenditures attributable to the bill¹². A recent brief prepared by Milliman actuaries suggests that parity impacts are 0.6 percent of premium without any managed care response and 0.1 percent with a managed care response.¹³

¹⁰ Rosenbach, M., Lake, T., Young, C., et al. (2003). Effects of the Vermont Mental Health and Substance Abuse Parity Law. DHHS Pub. No. (SMA) 03-3822. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration.

¹¹ U.S. Congressional Budget Office (2007). Cost Estimate: S.558 Mental Health Parity Act of 2007. Washington DC: Congressional Budget Office.

¹² California Health Benefits Review Program (2007). Analysis of Assembly Bill 423: Health Care Coverage: Mental Health Services. CHBRP 07-03.

¹³ Melek, S., The Mental Health Divide, Mending the Split Between Mind and Body, <http://www.milliman.com/perspective/articles/the-mental-health-divide-insight-11-01-07.php>

As with the retrospective research studies, in interpreting the applicability of these percentages to HB4432 we should take into account the extensive parity already in place in Massachusetts, the current modest substance abuse benefit in Massachusetts, and the degree to which Massachusetts health plans have unused “weapons” for reducing behavioral health costs.

Evaluating Parity Impact Factors

In evaluating the information from the research and actuarial studies, the factors for parity implementations that do not consider a managed care response were in the range of 0.4% to 0.6% of overall spending. These estimates were judged to be too high to be applicable to HB4432 for the following reasons:

- A complete lack of managed care response is not plausible. Particularly for non-biologically-based services, for which plans have relied on benefit limits to restrain excessive costs, it is assumed that strategies would be employed to manage utilization of these services if HB4432 were to pass.
- Significant portions of benefits typically affected by parity laws are already covered by Chapter 80 and so we would expect the impact to be smaller.

The same sources indicate that allowing for a care management response, the factors for parity implementation may be slightly above zero, or may be in the range of 0.1% to 0.16%. The lower of these estimates are assessed to be too low to be applicable to HB4432 for the following reasons:

- Outpatient substance abuse benefits in Massachusetts, at a \$500 per person cap, are below the pre-parity levels present in the other contexts in which parity was implemented and evaluated. We would therefore expect a larger response than has been measured in previous studies¹⁴.
- The managed care response for mental health benefits that contributed to the findings of studies for parity implementations 8-10 years ago may not be fully realizable in today’s climate in which the techniques that achieved these reductions have been applied at least in part by application to those benefits affected by Chapter 80.

The foregoing discussion asserts that factors near zero are likely to be too low and those in the range of 0.4% to 0.6% are likely to be too high. This would suggest that factors in the range of 0.1% to 0.3% are more likely.

In order to test the reasonableness of percent of premium factors in the 0.1% to 0.3% range, we can use them to calculate the implied behavioral health service spending increase and evaluate those figures. Exhibit 2 below presents the service cost implications of low-end, mid-range, and high-end cost impact factors of 0.1%, 0.2%, and 0.3%. These correspond to increased spending for behavioral health services of \$11 million, \$21 million, and \$32 million, respectively.

¹⁴ In some studies with a richer baseline substance abuse benefit, zero or even negative impacts have been found. Given the current benefit, such a response is judged to be highly unlikely.

Exhibit 2

Estimation of 2007 Spending for Behavioral Health Services Based on 0.1% and 0.3% Increases
Millions of Dollars

Service Category	Base Claims Cost*	Impact Factors			Implied Cost Increase		
		Low	Medium	High	Low	Medium	High
<i>All</i>	\$ 10,653.8	0.1%	0.2%	0.3%	\$ 10.7	\$ 21.3	\$ 32.0

*Based on an assumption that the average premium PMPM is \$434, including 12% administrative costs, and adjusted to all FI enrollees (2,324,624)

Before extrapolating this calculation to a 2008-2012 premium estimate, we can use other information as a way of testing the reasonableness of the 2007 service cost increases estimated in Exhibit 2. In the “Baseline Benefits and Costs” section above the estimated costs for fully insured behavioral health services in 2007 were presented, along with the following observations:

- The survey results indicate that the inpatient limits for mental health and substance abuse services have an immaterial effect;
- Parity already applies to biologically-based services for adults, which represent the great majority of adult service costs; and
- The survey also suggests that in practice limits for children’s services are generally not applied.

Exhibit 3 presents the health plan survey data that was presented in Exhibit 1 with the costs for the first two of the above three components removed, and the costs for children’s outpatient mental health services reduced by half to account for those plans that do not apply limits for medically necessary services to children.

Exhibit 3

Estimated Behavioral Health Claim Expenditures for Massachusetts Fully-Insured Under-65 Enrollees Affected by HB4432
Adjusted to Full FI Population Based on Calendar 2007 Claim Extracts From Plans Representing 85% of the Fully-Insured Market Segment

Service Category	Costs in Millions of Dollars				
	Age of Recipient on DOS				Overall Total
	0-18	19-64		All Adults	
Ave Enrollment	598,137	1,726,488		1,726,488	2,324,624
	Bio Based?				Overall Total
	All Children	Yes	No		
<i>Inpatient MH</i>	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Outpatient MH</i>	\$ 20.7	\$ -	\$ 38.5	\$ 38.5	\$ 59.1
<i>Intermediate MH</i>	\$ 1.0	\$ -	\$ 0.5	\$ 0.5	\$ 1.6
Total Mental Health	\$ 21.7	\$ -	\$ 39.0	\$ 39.0	\$ 60.7
<i>Inpatient SA</i>	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Outpatient SA</i>	\$ 0.4	\$ 1.2	\$ 5.0	\$ 6.2	\$ 6.6
<i>Intermediate SA</i>	\$ 0.2	\$ 0.8	\$ 1.9	\$ 2.7	\$ 2.9
Total Substance Abuse	\$ 0.6	\$ 1.9	\$ 6.9	\$ 8.9	\$ 9.5
Total	\$ 22.3	\$ 1.9	\$ 45.9	\$ 47.9	\$ 70.2

The costs in Exhibit 3 are for conditions that would have new, less restrictive benefit limits as a result of HB4432, and consist largely of substance abuse treatment costs and non-inpatient services for non-biologically-based conditions for adults. What growth factors, applied to these specific remaining cost components, produce service cost growth similar to that in Exhibit 2, the calculation of which relied on mandate impact factors of

0.1%, 0.2%, and 0.3% of healthcare premiums? Exhibit 4 provides one answer to this question and contains three scenarios with factors applied to the costs from the Exhibit 3 above.

Exhibit 4

Estimation of 2007 HB4432 Mandate Impact Using Specific Impacted Services as the Base Spending
Millions of Dollars

Service Category	Base Claims Cost*	Impact Factors			Implied Cost Increase		
		Low	Medium	High	Low	Medium	High
Inpatient MH					\$ -	\$ -	\$ -
Non-Inpatient MH	\$ 60.7	10.0%	20.0%	30.0%	\$ 6.1	\$ 12.1	\$ 18.2
Inpatient SA					\$ -	\$ -	\$ -
Non-Inpatient SA	\$ 9.5	50.0%	100.0%	150.0%	\$ 4.7	\$ 9.5	\$ 14.2
Total	\$ 70.2	15.4%	30.8%	46.2%	\$ 10.8	\$ 21.6	\$ 32.4

*Includes costs associated with non-biological mental health conditions for adults and substance abuse costs for children and adults

The set of assumptions that produced the results in Exhibit 4 are: Non-inpatient mental health services (outpatient and intermediate services) for adults with non-biologically-based conditions increase by between 10% and 30%, the same percentages applied to children’s outpatient services, and outpatient substance abuse treatment costs increase by between 50% and 150% (starting from the current low base of \$9.5 million dollars stemming from the \$500 per person cap). We can see in Exhibit 4 that assuming these increases in the affected components of behavioral health spending produces estimated claims cost impacts of \$11, \$22, and \$32 million. This is very similar to the \$11 million, \$21 million, and \$32 million claims cost impact shown in Exhibit 2. So the behavioral health service spending that would result from the mandate impact parameters of 0.1% to 0.3% are consistent with service growth in the specific components of service affected by HB4432 as shown in Exhibit 4. It would reassure us about the percent of premium-based estimates if the service-specific growth displayed in Exhibit 4 makes sense as a response to the loosened benefit restrictions.

Do the service-specific growth percentages in Exhibit 4 reflect a reasonable range of estimates of the impact of applying parity to these components? Analysis of substance abuse claim data from regions with rich substance abuse benefits suggests that between half and two thirds of spending on outpatient substance abuse would stem from spending over the \$500 limit. This would suggest that the growth factors in Exhibit 4 for outpatient substance abuse are reasonable. Similarly, the spending for outpatient services displayed in Exhibit 4 (those services not covered by Chapter 80s provisions) allows for between 10% and 30% overall growth to allow additional coverage for the relatively small number of individuals that are currently restricted by the 24 visit maximum. For example, the survey results indicated that there are 3000 adults out of approximately 1.7 million fully insured adults that hit the outpatient visit limit for conditions not covered by Chapter 80’s provisions. For those individuals, the spending in the Exhibit would on average pay for two to three times more care than under current coverage, depending on the scenario.

The discussion related to Exhibits 3 and 4 provides additional evidence that HB4432 spending impact estimates based on the percent of premium calculations using parameter values from 0.1% to 0.3% are reasonable.

Administrative Costs

In addition to the incremental medical care costs previously discussed, the overall impact of a mandate on the costs of health insurance in the Commonwealth consists of two other components:

- 1.) Incremental Administrative Expenses
- 2.) Incremental Margins

Incremental administrative expenses would be incurred for activities associated with the implementation of the mandate such as modifications to benefit plan materials, claims processing system changes, training/communication material for staff, etc. These costs would be non-zero but less than the administrative costs of an average benefit.

Incremental margin is required in order for the insurer to maintain adequate reserve levels as required by the Massachusetts Division of Insurance. Required reserves are based on the claim levels for the insurer, and since the mandate would increase claim levels, it would increase required reserve levels and therefore incrementally increase the total dollars of margin required to meet those reserve levels.

Data provided by the Division from its Key Indicators report¹⁵ indicate that administrative costs plus margin are currently approximately 12% on average. For the purposes of this analysis, we assume that incremental administrative costs and margin are equal to their current average level, which allows for any extraordinary expenses and provides a conservatively high estimate of any additional administrative requirements.

Results

Estimated impacts of HB4432 on Massachusetts healthcare premiums for fully-insured products are calculated as follows:

1. Based on data from the Division's Key Indicators report, we assumed that the 2007 premium for fully insured business is \$434¹⁶
2. We applied the previously discussed percent of premium factors of 0.1%, 0.2%, and 0.3%, producing estimated impacts on the premium of \$0.43, \$0.87, and \$1.30 PMPM.
3. The PMPM impacts, which consist of behavioral health costs, are trended forward to 2008 through 2012 by applying the historical growth rate in behavioral

¹⁵ http://www.mass.gov/Eeohhs2/docs/dhcfp/r/pubs/08/key_indicators_0608.pdf

¹⁶ Ibid

healthcare costs. The historical growth in behavioral health trend according to a recent CMS study is 6.7%, which is below the 8% average trend in general medical care spending.¹⁷ We have assumed 6.5% annual growth to trend the PMPMs, as the per-person spending would be slightly less than the aggregate trend due to population growth.

4. The trended PMPMs are multiplied by the fully-insured population projection for the corresponding year to arrive at estimated annual impact dollars.

The five-year impact results are displayed in Exhibit 5. The low, medium, and high scenarios correspond to the percent of premium assumptions of 0.1%, 0.2%, and 0.3%. In 2008, these scenarios result in estimated increased total spending of \$12.9 million, \$25.8 million, and \$38.8 million respectively.

Exhibit 5

Estimated Cost Impact of HB4322 on Fully-Insured Health Care Premiums 2008-2012

Annual Trend in Medical Claims	1.065					
	2008	2009	2010	2011	2012	All 5 Years
Fully Insured Enrollment	2,329,685	2,329,406	2,344,491	2,356,243	2,358,085	
Low Scenario						
Annual Impact Claims (000,000s)	\$ 11.4	\$ 12.1	\$ 13.0	\$ 13.9	\$ 14.8	\$ 65.2
Annual Impact Administration (000,000s)	\$ 1.6	\$ 1.7	\$ 1.8	\$ 1.9	\$ 2.0	\$ 8.9
Annual Impact Total (000,000s)	\$ 12.9	\$ 13.8	\$ 14.7	\$ 15.8	\$ 16.8	\$ 74.0
Premium Impact (PMPM)	\$ 0.46	\$ 0.49	\$ 0.52	\$ 0.56	\$ 0.59	\$ 0.53
Mid Scenario						
Annual Impact Claims (000,000s)	\$ 22.7	\$ 24.2	\$ 26.0	\$ 27.8	\$ 29.6	\$ 130.3
Annual Impact Administration (000,000s)	\$ 3.1	\$ 3.3	\$ 3.5	\$ 3.8	\$ 4.0	\$ 17.8
Annual Impact Total (000,000s)	\$ 25.8	\$ 27.5	\$ 29.5	\$ 31.6	\$ 33.7	\$ 148.1
Premium Impact (PMPM)	\$ 0.92	\$ 0.98	\$ 1.05	\$ 1.12	\$ 1.19	\$ 1.05
High Scenario						
Annual Impact Claims (000,000s)	\$ 34.1	\$ 36.3	\$ 38.9	\$ 41.7	\$ 44.4	\$ 195.5
Annual Impact Administration (000,000s)	\$ 4.7	\$ 5.0	\$ 5.3	\$ 5.7	\$ 6.1	\$ 26.7
Annual Impact Total (000,000s)	\$ 38.8	\$ 41.3	\$ 44.2	\$ 47.4	\$ 50.5	\$ 222.1
Premium Impact (PMPM)	\$ 1.39	\$ 1.48	\$ 1.57	\$ 1.67	\$ 1.78	\$ 1.58

The primary source of uncertainty related to these estimates is the degree to which care management can be used to offset the cost increasing effects of eliminating the benefit limits for non-biologically-based mental health services for adults and for substance abuse services for all ages. This source of uncertainty was addressed by bracketing a reasonable range for the percent of premium assumption to produce the low, medium, and high scenarios presented in Exhibit 5 above.

¹⁷ Mark, T.L., Levit, K.R., et. al. Mental Health Treatment Expenditure Trends, 1986-2003. (2007) Psychiatric Services 58:1041-1048.