Commonwealth of Massachusetts
Mandated Benefit Review

Review and Evaluation of Proposed Legislation Entitled:
"An Act to Provide Equitable Coverage for Substance Abuse"
Senate Bill No. 872

Provided for:

The Joint Committee on Insurance

Massachusetts Division of Health Care Finance and Policy
Commonwealth of Massachusetts
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TABLE OF CONTENTS

Section **Page**

INTRODUCTION

This is a report of the Division of Health Care Finance and Policy pursuant to the provisions of M.G.L. c. 3, § 38C. This section of Massachusetts general law requires the Division to evaluate the impact of a mandated benefit bill referred by legislative committee for review and to report to the referring committee. The Joint Committee on Insurance referred S.872, *"An Act to Provide Equitable Coverage for Substance Abuse",* to the Division for review. The bill's lead sponsor is Senator Richard T. Moore, Chair of the Committee on Health Care.

THE PROPOSED LEGISLATION

S.872 would require health care insurers to provide for the diagnosis and treatment of alcoholism or chemical dependency "under the same terms and conditions" offered for the diagnosis and treatment of a physical illness. In addition, co-payments, deductibles, and service limitations would have to be consistent with the coverage provisions for physical illnesses. The bill does not mandate that insurers offer substance abuse services as a benefit. Rather, it requires parity with coverage for physical conditions if it is offered. The bill does not pertain to MassHealth, which already offers full parity in substance abuse treatment to its members.

EXECUTIVE SUMMARY

Coverage

The majority of the insurers that responded to the Division's survey about substance abuse (SA) benefits do provide coverage of SA treatment with some restrictions, but extend treatment if "medically necessary". Several states mandate full mental health/ substance abuse (MH/SA) parity, while some exempt employers with fewer than 50 employees and/or have specific medical definitions of mental illness or substance abuse.

Fiscal Impact

The Lewin Group, the Division's contracted actuary for this work, estimated the current cost for SA benefits to be $2.60 per member per month (PMPM) for the fully-insured and direct purchase population. The expected average percentage *increase* in premiums resulting from the mandate would be just under 0.3% , ranging from a low of 0.10% to a high of 0.41%. The expected average premium increase per member per month (PMPM) due exclusively to the imposition of parity for SA benefits would be $0.83, ranging from a low of $0.32 to a high of $1.25 PMPM.

The increase in premium costs could result in a slight decrease, estimated at 0.1%, in the percentage of employees who are covered by employer-sponsored plans. This decrease in coverage would not differ across firm size. The employer-employee split of premium costs should not be noticeably affected by this mandate.

Efficacy

Drug addiction treatment is considered cost-effective in reducing drug use and the associated social and economic costs of addiction. Savings come from improved work productivity, reductions in drug-related accidents, and reduced interpersonal conflicts.[1] The Lewin Group

estimated that undesirable health and social outcomes associated with SA could be reduced by about 44% through SA treatment. The estimated economic cost to society for each person undergoing treatment is about $6,901 annually (2004).

HISTORICAL BACKGROUND

According to the 2002 Behavioral Risk Factor Surveillance System, approximately 48% of Massachusetts adults, ages 18 and older, reported use of illicit drugs in the past, with 8% reporting use of illicit drugs in the past 30 days. Eight percent (8%) of adults reported heavy drinking and 18% reported binge drinking.[2]

The percentage of fully insured persons who are substance abusers or substance dependent ranges from 5.6% to 5.9%, according to the Lewin Group. About 16% of these persons are being treated for their condition, according to the 2002 National Survey on Drug Use and Health. In Massachusetts, the current annual utilization of SA inpatient and outpatient services is 133.4 encounters or service units per 1000 members with an annual cost per utilizer of $7,000, based on insurers' responses and proprietary actuarial software.[3]

Substance abuse is defined here to include the use of illicit drugs, alcohol, and chemical dependency. Treatment facilities include, but are not limited to, short term residential (e.g. acute treatment, transitional support, post-detox/pre-recovery), long term residential (greater than 30 days), and outpatient services. Both public and private facilities offer treatment with the difference being that private facilities require insurance coverage or out-of-pocket payment. Public or tax supported facilities accept all clients based primarily on program capacity.

In 2001, Massachusetts mandated parity for biologically-based mental disorders, rape-related mental disorders and non-biologically-based mental disorders for children and adolescents under age 19 in individual, group, and HMO policies. Treatment for alcoholism or chemical dependency is covered under this law when treatment is rendered in conjunction with treatment for mental disorders.[4]

Current Coverage Levels for Substance Abuse

Most Massachusetts insurers routinely cover substance abuse treatment with varied restrictions regarding types of providers or facilities and limitations on visits, co-pays, and annual coverage. Extended coverage may occur when additional treatment is determined to be "medically necessary". The provisions of proposed Senate bill 872 would be preempted by the federal Employee Retirement Income Security Act (ERISA) and would not apply to self-insured benefit plans and their members. The 2001 Massachusetts Employer Health Insurance Survey found that approximately 27% of Massachusetts employees enrolled in employer-sponsored health plans are covered by plans that are self-funded.

The following plans/insurers responded to the Division's survey concerning the coverage and cost of substance abuse parity: Blue Cross and Blue Shield (BCBS), Fallon Community Health Plan, Harvard Pilgrim Health Plan, Neighborhood Health Plan, and Tufts Health Plan. The table below shows current coverage policies concerning substance abuse for the Massachusetts insurers noted above.

TABLE 1: COVERAGE FOR SUBSTANCE ABUSE

	SUBSTANCE ABUSE (SA) COVERAGE SUMMARY				
Questions	**Plan1**	**Plan2**	**Plan3**	**Plan4**	**Plan5**
Do you have restrictions regarding types of providers or facilities at which a member can receive treatment?	Y: Providers must be credentialed and services can be rendered in and out-of-network.	Y: Inpatient and outpatient differences for HMO or POS members. POS can use out-network with extra member costs; HMO members are assigned to a SAF.	Y: There is no coverage for rapid detox for opiate dependency & residential halfway houses	Y: The HMO is limited to contracted providers. Treatment is based on individual needs & accepted standards of care	N: There are no limits on inpat or outpat for any level of care. Co-pays the same as physical illness.
Are there limitations regarding visits, co-pays, deductibles, annual limits?	Y: Inpatient 60d/yr + 30d/yr for alcohol at SAF. Outpatient 24 v/yr + 8v/y for alcohol. more if 'medically necessary'	Y: There is an annual outpatient limit of $500 and inpatient 30d/yr, no detox limits. Co-pays are the same for MH, SA, PI.	Y: There is a 30d/yr inpatient SA rehab treatment and unltd outpatient therapy & inpatient detox.	The std plan is 20 visits or $500. For HMO, inpat 30d in SAF and office visits with copays. For PPO&POS, copays for in-network and coinsurance for out-of-network.	None/same
Are the restrictions the same as for physical illness?	No: However, PI has annual limits on inpatient rehabilitation & SNF and outpatient.	No: MH/SA uses a SAF Program. PI lets the PCP determine home hospital. Co-pays & deductibles are the same but there are limits on SA usage	No: There are no limits on inpatient med/surg services in acute facilities.	No: Limits are different for non-parity diagnosis.	Yes: There are no limits and the co-pays are identical.
Definitions: SA: Substance Abuse MH: Mental Health PI: Physical Illness		SAF: Substance Abuse Facility		v/year: visits per year d/year: days per year	

TABLE 2: ORGANIZATIONS THAT COMMENTED ON S.872 AND H.2086

Professional Organization	Position	Summary of Comments
AdCare Hospital of Worcester, Inc.	In Favor	Parity brings fairness and equity to insurance coverage for alcohol and other drug coverage.
Blue Cross and Blue Shield of Massachusetts (BCBS)	Neutral	In favor of cost analysis evaluating the financial impact and medical efficacy of proposed mandates.
MA Association of Behavioral Health Systems (MABHS)	In Favor	There should not be a qualifier to the treatment for substance abuse; rather, alcoholism and chemical dependency are distinct illnesses and should be treated as such in the insurance statutes of the Commonwealth.
MA Association of Health Plans (MAHP)	Oppose	Because mandated health care benefits increase health care costs, and substance abuse benefits are already provided by health plans, we see no need for the passage of these bills.
Mental Health & Substance Abuse Corporations of MA, Inc. (MHSAC)	In Favor	Costs are minimal for parity in health plans. The most current governmental and private actuarial studies indicate that parity in health insurance plans cost a maximum of $1 per month in all studies conducted.
MA Organization for Addiction Recovery (MOAR)	In Favor	Impact of alcohol and drug abuse and addiction on the health care system of the US is enormous. Treatment works and costs are minimal for parity
National Federation of Independent Business (NFIB)	Oppose	Mandates have a disproportionate economic impact on small employers. All mandates account for 15 to 20 percent of the premiums in MA.

Testimony to the Joint Committee on Insurance Re: S.872; H.2086:
AdCare, BCBS, MABHS, MOAR.
MAHP: Letter to the Division of Health Care Finance and Policy, May 10, 2004.
MHSAC: The Cost and Benefits of Parity for Addiction Services: A Compendium of Analytic Studies, October 9. 2001.
NFIB: National Federation of Independent Business website: www.nfib.com printed 4/26/04.

COST OF SUBSTANCE ABUSE COVERAGE

Some insurers covering Massachusetts residents provided cost information on the utilization of substance abuse services; however, the reported cost of services varied between plans. This cost variation may be attributable to the casemix of their patients, what they pay providers, as well as the services covered.

The Lewin Group estimated current cost for substance abuse (SA) benefits at $2.60 per member per month (PMPM) during CY2003. Current annual utilization of SA services is 133.4 encounters or service units per 1000 members, at a cost of $233.55 per unit. The "unit" used here comprises both inpatient and outpatient services. This estimate is based upon data provided by health plans as well as proprietary health insurance actuarial pricing software. Health plans reported aggregate costs PMPM ranging from $0.40 to $2.50 for SA treatment only. Currently, health plans differ both in inpatient and outpatient coverage with variations such as number of days allowed (30-60 or more), number of visits allowed (20 to unlimited), or annual amount that can be expended per enrollee.

The Lewin Group estimated that the annual (2004) cost to society of drug and alcohol use per untreated substance-abusing person is $12,313. Undesirable health and social outcomes associated with substance abuse could be reduced by about 44% through substance abuse treatment. This suggests that the remaining economic costs to society for each substance-abuser who is undergoing treatment is about 56% of the cost for untreated substance abusers, or $6,901 in 2004.

MEDICAL EFFICACY

Decades of research have established that a variety of alcohol and drug abuse treatment methods are successful. These treatments include both behavioral therapy and medication. Individuals must remain in treatment for an adequate length of time to learn how to manage their addiction and to deal with relapse.[5] Research indicates that for most patients, the threshold of significant improvement is about 3 months in treatment. After this threshold is reached, additional treatment can produce further progress toward recovery.[1] Most plans currently offer from 30-60 days of inpatient care and a varying amount of outpatient visits, with annual dollar caps on treatment costs.

FINANCIAL IMPACT OF MANDATE

The Lewin Group performed an actuarial analysis to determine whether health insurance premiums would increase due to this proposed mandate. Please refer to Attachment 1 for The Lewin Group's entire report.

DHCFP is required by M.G.L. c. 3, § 38C(d) to address the following issues:

1. *The extent to which the proposed insurance coverage would increase or decrease the cost of the treatment or service over the next 5 years.*

   The Lewin Group estimates the impact of the substance abuse mandate to increase the premium by 0.27%. This cost impact could range from a low of 0.10% to a high of 0.41%

depending upon trends in per member costs. This premium increase is a one-time event, the effect of which will continue throughout the next 5 years.

Several studies have looked at the costs of parity in other states. A direct comparison is difficult as these analyses are often based upon implementation of MH/SA coverage and not just SA parity as this mandate would require. The Lewin Group's estimate is slightly higher than the 0.2% estimate or roughly $1 in the average PMPM cost developed by Sing, Hill et al. in their 1998 DHS/SAMHSA report, based on case studies of five states and actuarial estimates for SA parity.[6] A Mathematica Policy Research study of MH/SA parity in Vermont reported that health plan spending did not rise substantially; spending by Blue Cross Blue Shield of Vermont (BCBSVT) increased 4% or $0.19 PMPM following implementation of parity, most of the increase being in mental health costs. In Vermont, the change to managed care helped control costs.[7]

2. *The extent to which the proposed coverage might increase the appropriate or inappropriate use of the treatment or service over the next 5 years.*

   The Lewin Group estimated an average increase of 2.2% in the number of substance abusers who would be getting treatment under the proposed act, with a range from 0.8% to 3.4%.

   In Vermont, the likelihood of inpatient SA treatment was much lower after the implementation of parity according to the reports of two plans. Access to treatment declined, with the percentage of users per 1,000 members decreasing by 16% to 29%. BCBSVT spending nearly halved after parity, partially because of changes in patterns of access and use, such as the targeting of more intensive treatment to a higher-severity case mix. Other states reported decreased length of stays for MH/SA inpatient services and an increase in outpatient services. Inpatient MH/SA admissions changes have been mixed.[8]

3. *The extent to which the insurance coverage may affect the number and types of providers of the mandated treatment or service over the next 5 years.*

   Proposed S.872 might increase access to treatment for employees, which in turn might increase the demand for providers in private treatment settings. The mix of service used, inpatient or outpatient, also could change as it did in Vermont after parity.

   On the other hand, according to the Lewin report, if all of the expected cost increase is passed on to clients and policyholders in the form of higher premiums, then we can expect to see a very slight (0.3%) drop in the proportion of workers who are offered employer-sponsored coverage. If fewer workers are covered, there could be a decrease in the demand for private services as fewer individuals would have coverage with which to access those services.

4. *The extent to which the mandated treatment or service might serve as an alternative for more expensive or less expensive treatments or services.*

   Several states that have mandated MH/SA parity, report deceased lengths of stay for inpatient services and increased use of outpatient services. It is impossible to say how this mandate might influence the mix of services used to treat substance abuse in Massachusetts.

The Lewin Group estimated that undesirable health and social outcomes associated with SA could be reduced by about 44% through SA treatment. The economic cost to society for each person undergoing treatment is about $6,901 (in 2004). The estimated savings from the proposed bill would be a minimum of $6.3 million based on a low estimate of the impact of parity and a best estimate of the affected population. These savings take into account a recidivism rate of roughly 50%.

Treatment can be cost beneficial to taxpayers. One 1994 California study concluded that the cost benefit of treatment averages a $7.00 return for every dollar invested, as well as a decrease in criminal activities and a reduction in emergency room admissions. [9] Treatment is less expensive than alternatives, such as not treating or imprisonment. The average cost for one year of methadone maintenance treatment is approximately $4,700 per patient, whereas one full year of imprisonment costs approximately $18,400 per person.[1]

5. *The effects of the mandated benefit on the cost of health care, particularly the premium, administrative expenses and indirect costs of large and small employers, employees and non-group purchasers.*

Most insurers routinely cover SA treatment, but not at parity with mental health or physical illness; therefore S.872 could increase the cost of premiums.

The Lewin Group calculated cost estimates of this mandate on premiums for the insured. Please see Attachment 1 for a full analysis, summarized as follows:

- Premium Cost Estimate of Substance Abuse Parity Mandate: The Lewin Group's actuarial analysis used an annual utilization of 133.4 encounters or service units per 1000 members and an expected percentage increase in premiums of just under 0.3% (0.27%). Based on the average premium paid by Massachusetts employers according to the Medical Expenditure Panel Survey (MEPS) for 2001 and updating this amount according to the cost trends found in the National Health Expenditure (NHE) history and projections produced by the Office of the Actuary at CMS, there would be an estimated per member per month (PMPM) increase of $0.83. Under current law, the projected premium for 2005 would be $3,661. Under the proposed mandate, the premium would range from $3,665 to $3,676 in 2005 with a maximum of $3,745. The variation is based on the trend in per member health insurance costs. These figures reflect a one-time increase, the effect of which will persist throughout the 5-year period. These premium amounts are the net (claims) cost for the plans; the gross premium which includes the insurer expenses or margin is 12% higher.
- The likely decrease in the percentage of employees who are covered by employment-related plans will be only 0.1%, due mostly to a lower take-up rate among employees who are offered coverage. The decrease in coverage would not vary appreciably by firm size (less than 1/10 of a percentage point).
- According to MEPS, Massachusetts employees currently pay an average of 21% of the health insurance coverage that they receive for themselves and their families. According to proprietary Lewin health insurance pricing software, this employer-employee split of the premium will not be noticeably affected by the SA mandate.

6. *The potential benefits and savings to large and small employers, employees and non-group purchasers.*

   Neither peer-reviewed articles nor governmental research addressed this question, consequently we are unable to answer this. We also note that small employers were exempt from the substance abuse parity bill in two states and non-group purchasers are exempt from mental health and/or substance abuse parity requirements in most states, so we are not able to garner evidence on this question from the experience of other states.

7. *The effect of the proposed mandate on cost-shifting between private and public payers of health care coverage.*

   State and local governments traditionally have financed a substantial portion of MH/SA services. Four states reported that costs did not shift from the public to the private sector when parity was mandated. These states stated two reasons. First, most people who received the publicly funded services were not privately insured because they are unable to work or only worked part-time. Second, the public system may finance services that private insurers do not cover, even under parity, such as psychosocial services (e.g. life-skills training) and services requested by a third party (e.g. court-ordered services).[6]

8. *The cost to health care consumers of not mandating the benefit in terms of out-of-pocket costs for treatment or delayed treatment.*

   Because surveyed insurers that we surveyed now cover substance abuse treatment, albeit with separate copay and deductible requirements from physical illness, not passing this mandate would mean that enrollees, if they seek treatment, would incur out-of-pocket costs identical to what they incur now. To the extent that an enrollee finds the schedule of copayments and deductibles a barrier in seeking treatment, then he/she may delay or avoid treatment.

   Moreover, while the plans surveyed also have treatment limitations, most insurers cover additional substance abuse treatment if "medically necessary," although the length or type of treatment may not cover the precise perceived needs of a patient. Patients may appeal their health plan's denial of coverage. However, most of the treatment appeals made to the Department of Public Health's Office of Patient Protection were for mental health treatment or dual diagnosis of MH/SA.

9. *The effects on the overall cost of the health care delivery system in the Commonwealth.*

   According to the Lewin Group, there would be a slight increase in health insurance premiums due to proposed S.872. On the other hand, more substance abusers would be treated. The average annual cost of treatment is around $7,000, while the average cost to society of the "untreated" is $12,000-$14,000. Thus, economic savings from $6 to $25 million annually might be expected under the proposed law, but not necessarily savings to the health care system.[3]

LEGISLATIVE ACTIVITY IN OTHER STATES

According to the National Conference of State Legislatures, six states have full parity laws for mental health and substance abuse: Connecticut, Delaware, Minnesota, Virginia, Vermont and West Virginia. North Carolina and South Carolina offer parity for state employees' health plans only.[10] Sing, Hill et al. reported that state MH/SA parity laws affect only about 30 percent of the people with health insurance in Maryland, Minnesota, and Rhode Island because of ERISA and small employer exemptions.[6]

ENDNOTES

[1] Principles of Drug Addiction Treatment A Research-Based Guide. Pub. NO.00-4180 October 1999 A National Institute on Drug Abuse, National Institutes of Health. http://www.drugabuse.gov/PODAT/PODAT3.html

[2] A Profile of Health Among Massachusetts Adults, 2002 . April 2004 http://www.state.ma.us/dph/bhsre/cdsp/brfss/rpt%202002.pdf

[3] The Lewin Group. Actuarial Assessment of Massachusetts Senate Bill No. 872: "An Act to Provide Equitable Coverage for Substance Abuse", May 24, 2004.

[4] MGL, c. 175 s 47B; c.176A s 8A; c.176B s 4A; c.176G s 4M.

[5] Goplerud and Cimons. *Workplace Solutions: Treating Alcohol Problems Through Employment-Based Health Insurance.* December 2002. George Washington University Medical Center. www.EnsuringSolutions.org/images/reports/rr1.pdf

[6] Sing, Hill, Smolkin, Heiser. *The Costs and Effects of Parity for Mental Health and Substance Abuse Insurance Benefits.* (1998) DHHS Pub. No. MC99-80. Center for Mental Health Services, Substance Abuse and Mental Health Services Administration. http://www.mentalhealth.org/publications/allpubs/Mc99-80/prtyconc.asp

[7] Rosenbach, Lake, et al. *Effects of the Vermont Mental Health and Substance Abuse Parity Law* (2003). DHHS Pub. No. (SMA)03-3822. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration. ftp://ftp.health.org/pub/ken/pdf/SMA03-3822/CMHS9PRI.pdf

[8] Varmus, Harold, M.D., *Parity in Financing Mental Health Services: Managed Care Effects on Cost, Access, and Quality*. May, 1998. National Institute of Health. DHHS. http://www.nimh.nih.gov/research/prtyrpt/parity.pdf.

[9] State of California. *Evaluating Recovery Services: The California Drug and Alcohol Treatment Assessment*. 1994,Pub No. (ADP)94-4628. http://www.adp.cahwnet.gov/RC/pdf/caldata.pdf

[10] National Conference of State Legislatures, *Insurance Mandates and Health Care Costs*, January 2004. www.ncsl.org/legisl/pubs/04SLJan_mandatesHC.pdf

Actuarial Assessment of Massachusetts Senate Bill No. 872: "An Act to Provide Equitable Coverage for Substance Abuse"

Prepared for:

Division of Health Care Finance and Policy
Commonwealth of Massachusetts

May 24, 2004

I. SUMMARY AND RESULTS

The Massachusetts Division of Health Care Finance and Policy retained The Lewin Group to perform an actuarial assessment of the potential costs associated with Senate Bill No. 872, "An Act to Provide Equitable Coverage for Substance Abuse." The proposed legislation would require that health insurance plans or policies that provide coverage for the diagnosis and treatment of alcoholism or chemical dependency do so under the same terms and conditions offered for the diagnosis and treatment of physical illnesses – that is, it mandates parity for substance abuse benefits (unless a plan or policy excludes substance abuse benefits altogether). It should be noted that (i) under current law, mental health benefits apply when an individual is dual diagnosed and is being treated for both mental illness and alcoholism, and (ii) due to preemption by ERISA, the bill would not affect self-insured employee benefit plans.

Our assessment includes estimates of the following:

- The total number of Massachusetts residents covered by plans or policies that would be affected by the legislation, including both (a) fully-insured employment-based plans and (b) direct purchase policies
- The average annual and monthly gross premium (including insurer expenses) and the average annual and monthly net benefit cost (i.e., claims cost) for these plans and policies, per covered person
- The increase in the number of covered persons that is expected to occur between the base year of the projection (2004) and the last year of the projection period (2009)
- The anticipated underlying trend (i.e., annual increase) in per-member benefit costs and premiums – that is, the increase that would occur in the absence of the proposed legislation
- The per-member per-month (PMPM) cost for substance abuse benefits that currently are included in the affected plans and policies
- The anticipated increase in the PMPM cost for substance abuse benefits (and hence in the cost of health insurance) that would occur as a result of the mandate imposed by the proposed legislation
- The effect that this increase in health insurance costs would have on the proportion of employers who offer health insurance (the "employer offer rate"), the average employee contribution required under employer-sponsored plans, and the proportion of employees who enroll when offered employment-based coverage (the "employee take-up rate")
- The number of Massachusetts residents covered by affected plans and policies who are substance-abusing (or substance-dependent; these terms are used interchangeably in this report)
- The percentage of covered substance-dependent persons who receive treatment, both under current law and (hypothetically) under the proposed legislation

- The economic cost to society associated with substance abuse, per substance-dependent person

- The efficacy of treatment in avoiding the economic costs associated with substance abuse, and hence the potential economic gain associated with the increased utilization of substance abuse benefits that is expected to occur as a result of the proposed legislation.

The cost projections included in this analysis are based on the assumption that the proposed legislation would go into effect at the beginning of 2005. Five-year population and cost projections (through 2009) were developed under a variety of scenarios. Low, medium (or "best estimate"), and high values were selected for the following key input variables: (a) the number of persons affected by the legislation, (b) the underlying trend in per-member health insurance costs, (c) the impact of the parity mandate on the utilization of substance abuse benefits and on the cost of health insurance, and (d) the percentage of the persons covered under affected plans or policies who are substance dependent.

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The results of our analysis are presented in the exhibits below, labeled Part 1a through Part 6c.

Parts 1a and 1b of our analysis show projections of health insurance costs under current law (i.e., disregarding the effects that S.B. 872 is expected to have if it is enacted). Three projections are given, based on three different estimates of the number of persons covered by plans and policies that would be affected by the legislation. The "low population" and "high population" projections are shown in Part 1a, while the "best estimate" projection (based on a 75%/25% weighting of the low and high population assumptions) is shown in Part 1b. All three projections use the medium underlying trend in per-member costs, which is based on the trends used in the National Health Expenditure (NHE) projections for 2003 through 2013 produced by the Office of the Actuary at the Centers for Medicare and Medicaid Services (CMS). This source was also used to develop the trends used to project the health insurance cost figures from the experience or data years to the base year of the projection (2004). The experience year for the substance abuse benefit utilization and cost data that were submitted to the Division by participating Massachusetts health plans and insurers was 2003, while the experience year for the data on employer-sponsored plans that were used to estimate average current health insurance costs was 2001. Most of the population data was from 2002 and was projected forward using the overall population increase rate of 0.2% that Massachusetts experienced from 2002 to 2003.

For this analysis, the "fully insured" population includes (a) persons who are covered by employment-based plans that are not self-funded, and (b) persons who are covered by individual or direct purchase plans or policies. It does not include Medicaid beneficiaries, since they already have substance abuse parity. Our best estimate of the number of fully insured persons in Massachusetts in 2004 is about 2,338,000 (see Part 1b), but the range of reasonable estimates is quite broad due to considerable uncertainty regarding how many persons with employment-based coverage are covered by self-funded plans. The best estimate of the fully insured population grows to about 2,361,500 by 2009.

The average net benefit or claims cost for fully insured persons is expected to grow from $3,393 per member per year (about $283 PMPM) in 2004 to $4,963 per member per year (about $414 PMPM) in 2009, using the medium (CMS) underlying trend in per-member costs, and in the absence of S.B. 872. The gross premium, which includes insurer expenses, is calculated to produce a margin (premium – claims cost) equal to 12% of the gross premium. The average annual premium is expected to grow from $3,856 in 2004 to $5,640 in 2009.

Multiplying the population for each year by the corresponding per-member cost yields the total cost for fully insured persons for that year. The net cost is expected to grow from $7.9 billion in 2004 to $11.7 billion in 2009, and the gross cost is expected to grow from $9.0 billion in 2004 to $13.3 billion in 2009.

Parts 2a through 2c provide a set of estimates of the cost effect of S.B. 872 under the medium underlying trend assumption. In order to show the range of possible results, we developed low, medium, and high estimates of the cost impact of substance abuse parity, based both on the data submitted to the Division by participating insurers and on the output we obtained from our health insurance pricing software. All three estimates are small when expressed as a percentage increase in the average premium for all fully insured persons. The low estimate of 0.10% is used in Part 2a, the medium estimate of 0.27% is used in Part 2b(i) and (ii), and the high estimate of 0.41% is used in Part 2c. In each case, the cost impact is a one-time addition to the underlying trend, occurring in the first year (2005) that the parity mandate is assumed to be in effect. Note that, based on the NHE projections produced by CMS, we already were anticipating a decrease in the underlying trend from 8.3% for 2004 to 7.9% per year from 2005 through 2009. Thus, even with the cost impact of the mandate added in, the total trend decreases from 2004 to 2005 under the low- and medium-impact scenarios.

To show how the range of population estimates can affect the results, we produced medium-impact projections using all three population estimates. The low- and high-population estimates are used in Part 2b(i), while the best estimate of the fully insured population is used in Part 2b(ii). For the low- and high-impact projections (Parts 2a and 2c), we show the results under the best-estimate population scenario.

In the bottom half of each of these exhibits, we show the increase both in the per-member cost and in the total cost for fully insured persons for each year on a dollar basis. (This is compared to the "current law" projections of Parts 1a and 1b.) Note that the increase is $0 for 2004, since the mandate is not assumed to go into effect until 2005. In previous communications with the Division, we have mentioned the dollar impact that the mandate would have had in 2003 (the experience year for the data supplied by the participating insurers). The PMPM amount of this hypothetical increase (after adjusting for some late refinements to our model) is $0.27 under the low impact scenario, $0.71 under the medium-impact scenario, and $1.07 under the high-impact scenario. Multiplying each of these amounts by the underlying trend factors of 1.083 for 2004 and 1.079 for 2005, we come up with PMPM increases of $0.32, $0.83, and $1.25, which are the amounts shown for the increase in the PMPM net benefit cost in 2005 in Parts 2a, 2b(ii), and 2c, respectively.

We estimated the effect that the premium increases resulting from this mandate would have on employment-based health insurance coverage by using The Lewin Group's Health Benefits Simulation Model. Applying the regression equations used in this model, we found that a 0.27% increase in health insurance premiums would result in a very small drop (well under 0.1%) in the employer offer rate, and a slightly larger drop in the employee take-up rate. The

combined effect would be a reduction of just under 0.1% in the proportion of employees who are enrolled in employment-based health insurance plans. The average share of the premium paid by employees (21.4%) would not be materially affected by the increase in premiums associated with substance abuse parity. The same results hold for small firms as well as for larger firms.

Parts 3a and 3b of our analysis show the projected costs under current law (3a) and under the proposed law (3b), using the low underlying trend in per-member costs. For both of these exhibits, we used the best-estimate population projection, and for Part 3b, we used the medium assumption regarding the cost impact of the parity mandate. **Parts 4a and 4b** show the projected costs under current law and under the proposed law, using the high underlying trend in per-member costs. Again, we used the best-estimate population projection for both of these exhibits, and for Part 4b, we used the medium assumption regarding the cost impact of the parity mandate.

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In **Parts 5a and 5b,** we turn to the estimation of the economic costs to society associated with substance abuse (among those who are covered by plans or policies that would be affected by S.B. 872). The first task is to estimate the percentage of fully insured persons in Massachusetts who are substance dependent. We considered a fairly narrow range of possibilities for this number, drawing on the results of the U.S. Substance Abuse and Mental Health Services Administration's *2002 National Survey on Drug Use and Health*. Based on this information, we developed a low estimate of 5.6%, a medium estimate of 5.7%, and a high estimate of 5.9%. These were paired with the low, "best," and high estimates, respectively, of the fully insured population in Massachusetts. The next task is to estimate the percentage of covered substance-dependent persons who are being treated for their condition. Our estimate of 15.9% is also based on the *2002 National Survey on Drug Use and Health*.

Having estimated the number of treated and untreated substance-dependent persons among the fully insured population in Massachusetts, the final task is to estimate the economic cost to society of drug and alcohol abuse, and to estimate the efficacy of substance abuse treatment in avoiding or reducing these costs. For the former, we relied on a report entitled *The Economic Costs of Drug Abuse In the United States*, prepared by The Lewin Group for the Office of National Drug Control Policy and released in September 2001. After making some adjustments, we came up with a figure of $12,313 per untreated substance-dependent person in 2004. The next question was how much this figure could be reduced, on average, by substance abuse treatment. Based on a report prepared by Health Addictions Research, Inc. for the Massachusetts Bureau of Substance Abuse Services in June 2000, and on a presentation prepared by the same firm a month later, we were able to estimate that, on average, the undesirable health and social outcomes associated with substance abuse could be reduced by about 44% through substance abuse treatment. This suggests that the remaining economic costs to society for each substance-dependent person who is undergoing treatment is about 56% of the cost for untreated substance abusers, or $6,901 in 2004.

In **Parts 6a through 6c**, we consider how the balance between those who are being treated and those who are not being treated for their substance dependence would be altered by the proposed law. We already have from Parts 2a through 2c of this analysis an estimate of the

increase in total benefit costs for fully insured plans that would result from the parity mandate. This increase in costs is attributable to more substance abusers in fully insured plans getting treatment for their conditions. To estimate *how many more* substance abusers would be getting treatment, we can divide the total increase in benefit cost by the annual cost per substance abuse benefit utilizer, which we can estimate from the data supplied by the plans. After carrying out this step, we find that the percentage of covered substance abusers who are getting treatment increases by 0.8 percentage points under the low-impact scenario (Part 6a), 2.2 - 2.3 percentage points – depending on which population projection is used – under the medium-impact scenario (Parts 6b(i) and 6b(ii)), and 3.4 percentage points under the high-impact scenario (Part 6c).

Note that the economic cost to society per treated or untreated substance abuser does not change between the projections under current law (Parts 5a and 5b) and the projections under the proposed law (Parts 6a through 6c). Rather, the savings in social-economic terms comes from moving substance dependent members from the "untreated" category (for whom the average cost to society is $12,000-$14,000) to the "treated" category (for whom the average cost is around $7,000). Changing the mix of substance abusers in favor of the less expensive category lowers the average cost and the total cost to society for all substance abusers.

Cost Projection for Proposed Substance Abuse Parity Law

Part 1a: Projected Health Insurance Costs Under Current Law

(Medium Underlying Trend in Per-Member Costs)

(Population Projections: Low and High)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
Total MA Population	6,446,289	6,459,181	6,472,100	6,485,044	6,498,014	6,511,010
Growth rate	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*
LOW POPULATION ESTIMATES:						
Covered by Health Ins.	5,801,660	5,813,263	5,824,890	5,836,540	5,848,213	5,859,909
Percent of total population	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*	*90.0%*
Fully Insured *	2,007,374	2,011,389	2,015,412	2,019,443	2,023,482	2,027,529
Pct. of covered population	*34.6%*	*34.6%*	*34.6%*	*34.6%*	*34.6%*	*34.6%*
HIGH POPULATION ESTIMATES:						
Covered by Health Ins.	6,014,387	6,026,416	6,038,469	6,050,546	6,062,647	6,074,772
Percent of total population	*93.3%*	*93.3%*	*93.3%*	*93.3%*	*93.3%*	*93.3%*
Fully Insured *	3,350,014	3,356,714	3,363,427	3,370,154	3,376,894	3,383,648
Pct. of covered population	*55.7%*	*55.7%*	*55.7%*	*55.7%*	*55.7%*	*55.7%*

* Including direct purchase

ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,393	$3,661	$3,951	$4,263	$4,600	$4,963
Underlying trend	*8.30%*	*7.90%*	*7.90%*	*7.90%*	*7.90%*	*7.90%*
Gross Premium	$3,856	$4,161	$4,489	$4,844	$5,227	$5,640
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
TOTAL COST FOR FULLY INSURED PLANS						
LOW-POPULATION COST ESTIMATES:						
Benefit Costs ($millions)	$6,812	$7,365	$7,962	$8,608	$9,307	$10,062
Gross Premiums ($millions)	$7,741	$8,369	$9,048	$9,782	$10,576	$11,435
HIGH-POPULATION COST ESTIMATES:						
Benefit Costs ($millions)	$11,368	$12,290	$13,288	$14,366	$15,532	$16,793
Gross Premiums ($millions)	$12,918	$13,966	$15,100	$16,325	$17,650	$19,083

Cost Projection for Proposed Substance Abuse Parity Law

Part 1b: Projected Health Insurance Costs Under Current Law

(Medium Underlying Trend in Per-Member Costs)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
Total MA Population	6,446,289	6,459,181	6,472,100	6,485,044	6,498,014	6,511,010
Growth rate	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*
BEST ESTIMATE OF POPULATION:						
Covered by Health Ins.	5,859,677	5,871,396	5,883,139	5,894,905	5,906,695	5,918,508
Percent of total population	*90.9%*	*90.9%*	*90.9%*	*90.9%*	*90.9%*	*90.9%*
Fully Insured *	2,338,011	2,342,687	2,347,372	2,352,067	2,356,771	2,361,485
Pct. of covered population	*39.9%*	*39.9%*	*39.9%*	*39.9%*	*39.9%*	*39.9%*
PER-MEMBER PER-MONTH COST						
Net Benefit Cost	$282.78	$305.12	$329.22	$355.23	$383.30	$413.58
Underlying trend	*8.30%*	*7.90%*	*7.90%*	*7.90%*	*7.90%*	*7.90%*
Gross Premium	$321.34	$346.73	$374.12	$403.67	$435.56	$469.97
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,393	$3,661	$3,951	$4,263	$4,600	$4,963
Gross Premium	$3,856	$4,161	$4,489	$4,844	$5,227	$5,640
TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	$7,934	$8,578	$9,274	$10,026	$10,840	$11,720
Gross Premiums ($millions)	$9,016	$9,747	$10,538	$11,394	$12,318	$13,318

* Including direct purchase

Cost Projection for Proposed Substance Abuse Parity Law

Part 2a: Projected Health Insurance Costs Under Proposed Law

(Medium Underlying Trend in Per-Member Costs)

(Low Estimate of Parity Impact: 0.10%)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
PER-MEMBER PER-MONTH COST						
Net Benefit Cost	$282.78	$305.44	$329.57	$355.60	$383.69	$414.01
Trend ***plus parity impact***	*8.30%*	***8.01%***	*7.90%*	*7.90%*	*7.90%*	*7.90%*
Gross Premium	$321.34	$347.09	$374.51	$404.09	$436.02	$470.46
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,393	$3,665	$3,955	$4,267	$4,604	$4,968
Gross Premium	$3,856	$4,165	$4,494	$4,849	$5,232	$5,646
TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	$7,934	$8,586	$9,283	$10,037	$10,851	$11,732
Gross Premiums ($millions)	$9,016	$9,757	$10,549	$11,405	$12,331	$13,332
INCREASE IN PER-MEMBER PER-MONTH COST						
Net Benefit Cost	*$0.00*	***$0.32***	*$0.34*	*$0.37*	*$0.40*	*$0.43*
Gross Premium	*$0.00*	*$0.36*	*$0.39*	*$0.42*	*$0.45*	*$0.49*
INCREASE IN ANNUAL COST PER MEMBER						
Net Benefit Cost	*$0.00*	*$3.79*	*$4.09*	*$4.41*	*$4.76*	*$5.13*
Gross Premium	*$0.00*	*$4.30*	*$4.64*	*$5.01*	*$5.40*	*$5.83*
INCREASE IN TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	*$0.0*	*$8.9*	*$9.6*	*$10.4*	*$11.2*	*$12.1*
Gross Premiums ($millions)	*$0.0*	*$10.1*	*$10.9*	*$11.8*	*$12.7*	*$13.8*

Cost Projection for Proposed Substance Abuse Parity Law

Part 2b(i): Projected Health Insurance Costs Under Proposed Law

(Medium Underlying Trend in Per-Member Costs)

(Med. Estimate of Parity Impact: 0.27%)

(Population Projections: Low and High)

	2004	2005	2006	2007	2008	2009
ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,393	$3,671	$3,961	$4,274	$4,612	$4,976
*Trend **plus parity impact***	*8.30%*	***8.19%***	*7.90%*	*7.90%*	*7.90%*	*7.90%*
Gross Premium	$3,856	$4,172	$4,502	$4,857	$5,241	$5,655
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
TOTAL COST FOR FULLY INSURED PLANS						
LOW-POPULATION COST ESTIMATES:						
Benefit Costs ($millions)	$6,812	$7,385	$7,984	$8,632	$9,332	$10,090
Gross Premiums ($millions)	$7,741	$8,392	$9,073	$9,809	$10,605	$11,466
HIGH-POPULATION COST ESTIMATES:						
Benefit Costs ($millions)	$11,368	$12,324	$13,324	$14,405	$15,575	$16,838
Gross Premiums ($millions)	$12,918	$14,004	$15,141	$16,370	$17,698	$19,135
INCREASE IN ANNUAL COST PER MEMBER						
Net Benefit Cost	*$0.00*	*$9.96*	*$10.75*	*$11.60*	*$12.51*	*$13.50*
Gross Premium	*$0.00*	*$11.32*	*$12.21*	*$13.18*	*$14.22*	*$15.34*
INCREASE IN TOTAL COST FOR F. I. PLANS						
LOW-POPULATION COST ESTIMATES:						
Benefit Costs ($millions)	*$0.0*	*$20.0*	*$21.7*	*$23.4*	*$25.3*	*$27.4*
Gross Premiums ($millions)	*$0.0*	*$22.8*	*$24.6*	*$26.6*	*$28.8*	*$31.1*
HIGH-POPULATION COST ESTIMATES:						
Benefit Costs ($millions)	*$0.0*	*$33.4*	*$36.1*	*$39.1*	*$42.3*	*$45.7*
Gross Premiums ($millions)	*$0.0*	*$38.0*	*$41.1*	*$44.4*	*$48.0*	*$51.9*

Cost Projection for Proposed Substance Abuse Parity Law

Part 2b(ii): Projected Health Insurance Costs Under Proposed Law

(Medium Underlying Trend in Per-Member Costs)

(Med. Estimate of Parity Impact: 0.27%)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
PER-MEMBER PER-MONTH COST						
Net Benefit Cost	$282.78	$305.95	$330.12	$356.20	$384.34	$414.70
*Trend **plus parity impact***	*8.30%*	***8.19%***	*7.90%*	*7.90%*	*7.90%*	*7.90%*
Gross Premium	$321.34	$347.67	$375.14	$404.77	$436.75	$471.25
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,393	$3,671	$3,961	$4,274	$4,612	$4,976
Gross Premium	$3,856	$4,172	$4,502	$4,857	$5,241	$5,655
TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	$7,934	$8,601	$9,299	$10,054	$10,870	$11,752
Gross Premiums ($millions)	$9,016	$9,774	$10,567	$11,425	$12,352	$13,354
INCREASE IN PER-MEMBER PER-MONTH COST						
Net Benefit Cost	*$0.00*	***$0.83***	*$0.90*	*$0.97*	*$1.04*	*$1.13*
Gross Premium	*$0.00*	*$0.94*	*$1.02*	*$1.10*	*$1.18*	*$1.28*
INCREASE IN ANNUAL COST PER MEMBER						
Net Benefit Cost	*$0.00*	*$9.96*	*$10.75*	*$11.60*	*$12.51*	*$13.50*
Gross Premium	*$0.00*	*$11.32*	*$12.21*	*$13.18*	*$14.22*	*$15.34*
INCREASE IN TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	*$0.0*	*$23.3*	*$25.2*	*$27.3*	*$29.5*	*$31.9*
Gross Premiums ($millions)	*$0.0*	*$26.5*	*$28.7*	*$31.0*	*$33.5*	*$36.2*

Cost Projection for Proposed Substance Abuse Parity Law

Part 2c: Projected Health Insurance Costs Under Proposed Law

(Medium Underlying Trend in Per-Member Costs)

(High Estimate of Parity Impact: 0.41%)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
PER-MEMBER PER-MONTH COST						
Net Benefit Cost	$282.78	$306.37	$330.57	$356.69	$384.87	$415.27
*Trend **plus parity impact***	*8.30%*	***8.34%***	*7.90%*	*7.90%*	*7.90%*	*7.90%*
Gross Premium	$321.34	$348.15	$375.65	$405.33	$437.35	$471.90
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,393	$3,676	$3,967	$4,280	$4,618	$4,983
Gross Premium	$3,856	$4,178	$4,508	$4,864	$5,248	$5,663
TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	$7,934	$8,613	$9,312	$10,067	$10,885	$11,768
Gross Premiums ($millions)	$9,016	$9,787	$10,582	$11,440	$12,369	$13,373
INCREASE IN PER-MEMBER PER-MONTH COST						
Net Benefit Cost	*$0.00*	***$1.25***	*$1.35*	*$1.45*	*$1.57*	*$1.69*
Gross Premium	*$0.00*	*$1.42*	*$1.53*	*$1.65*	*$1.78*	*$1.92*
INCREASE IN ANNUAL COST PER MEMBER						
Net Benefit Cost	*$0.00*	*$15.00*	*$16.18*	*$17.46*	*$18.84*	*$20.33*
Gross Premium	*$0.00*	*$17.04*	*$18.39*	*$19.84*	*$21.41*	*$23.10*
INCREASE IN TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	*$0.0*	*$35.1*	*$38.0*	*$41.1*	*$44.4*	*$48.0*
Gross Premiums ($millions)	*$0.0*	*$39.9*	*$43.2*	*$46.7*	*$50.5*	*$54.5*

Cost Projection for Proposed Substance Abuse Parity Law

Part 3a: Projected Health Insurance Costs Under Current Law

(Low Underlying Trend in Per-Member Costs)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
Total MA Population	6,446,289	6,459,181	6,472,100	6,485,044	6,498,014	6,511,010
Growth rate	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*
BEST ESTIMATE OF POPULATION:						
Covered by Health Ins.	5,859,677	5,871,396	5,883,139	5,894,905	5,906,695	5,918,508
Percent of total population	*90.9%*	*90.9%*	*90.9%*	*90.9%*	*90.9%*	*90.9%*
Fully Insured *	2,338,011	2,342,687	2,347,372	2,352,067	2,356,771	2,361,485
Pct. of covered population	*39.9%*	*39.9%*	*39.9%*	*39.9%*	*39.9%*	*39.9%*
PER-MEMBER PER-MONTH COST						
Net Benefit Cost	$279.95	$299.05	$319.45	$341.24	$364.51	$389.38
Underlying trend	*7.22%*	*6.82%*	*6.82%*	*6.82%*	*6.82%*	*6.82%*
Gross Premium	$318.13	$339.83	$363.01	$387.77	$414.22	$442.47
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,359	$3,589	$3,833	$4,095	$4,374	$4,673
Gross Premium	$3,818	$4,078	$4,356	$4,653	$4,971	$5,310
TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	$7,854	$8,407	$8,998	$9,631	$10,309	$11,034
Gross Premiums ($millions)	$8,925	$9,553	$10,225	$10,945	$11,715	$12,539

* Including direct purchase

Cost Projection for Proposed Substance Abuse Parity Law

Part 3b: Projected Health Insurance Costs Under Proposed Law

(Low Underlying Trend in Per-Member Costs)

(Med. Estimate of Parity Impact: 0.27%)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
PER-MEMBER PER-MONTH COST						
Net Benefit Cost	$279.95	$299.86	$320.32	$342.16	$365.50	$390.43
*Trend **plus parity impact***	*7.22%*	***7.11%***	*6.82%*	*6.82%*	*6.82%*	*6.82%*
Gross Premium	$318.13	$340.75	$364.00	$388.82	$415.34	$443.68
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,359	$3,598	$3,844	$4,106	$4,386	$4,685
Gross Premium	$3,818	$4,089	$4,368	$4,666	$4,984	$5,324
TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	$7,854	$8,430	$9,023	$9,658	$10,337	$11,064
Gross Premiums ($millions)	$8,925	$9,579	$10,253	$10,974	$11,746	$12,573
INCREASE IN PER-MEMBER PER-MONTH COST						
Net Benefit Cost	*$0.00*	*$0.81*	*$0.87*	*$0.93*	*$0.99*	*$1.06*
Gross Premium	*$0.00*	*$0.92*	*$0.99*	*$1.05*	*$1.13*	*$1.20*
INCREASE IN ANNUAL COST PER MEMBER						
Net Benefit Cost	*$0.00*	*$9.76*	*$10.43*	*$11.14*	*$11.90*	*$12.71*
Gross Premium	*$0.00*	*$11.09*	*$11.85*	*$12.66*	*$13.52*	*$14.44*
INCREASE IN TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	*$0.0*	*$22.9*	*$24.5*	*$26.2*	*$28.0*	*$30.0*
Gross Premiums ($millions)	*$0.0*	*$26.0*	*$27.8*	*$29.8*	*$31.9*	*$34.1*

Cost Projection for Proposed Substance Abuse Parity Law

Part 4a: Projected Health Insurance Costs Under Current Law

(High Underlying Trend in Per-Member Costs)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
Total MA Population	6,446,289	6,459,181	6,472,100	6,485,044	6,498,014	6,511,010
Growth rate	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*	*0.2%*
BEST ESTIMATE OF POPULATION:						
Covered by Health Ins.	5,859,677	5,871,396	5,883,139	5,894,905	5,906,695	5,918,508
Percent of total population	*90.9%*	*90.9%*	*90.9%*	*90.9%*	*90.9%*	*90.9%*
Fully Insured *	2,338,011	2,342,687	2,347,372	2,352,067	2,356,771	2,361,485
Pct. of covered population	*39.9%*	*39.9%*	*39.9%*	*39.9%*	*39.9%*	*39.9%*
PER-MEMBER PER-MONTH COST						
Net Benefit Cost	$285.61	$311.25	$339.20	$369.66	$402.85	$439.02
Underlying trend	*9.38%*	*8.98%*	*8.98%*	*8.98%*	*8.98%*	*8.98%*
Gross Premium	$324.56	$353.70	$385.46	$420.07	$457.78	$498.89
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,427	$3,735	$4,070	$4,436	$4,834	$5,268
Gross Premium	$3,895	$4,244	$4,625	$5,041	$5,493	$5,987
TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	$8,013	$8,750	$9,555	$10,434	$11,393	$12,441
Gross Premiums ($millions)	$9,106	$9,943	$10,858	$11,856	$12,947	$14,137

* Including direct purchase

Cost Projection for Proposed Substance Abuse Parity Law

Part 4b: Projected Health Insurance Costs Under Proposed Law

(High Underlying Trend in Per-Member Costs)

(Med. Estimate of Parity Impact: 0.27%)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
PER-MEMBER PER-MONTH COST						
Net Benefit Cost	$285.61	$312.10	$340.12	$370.66	$403.95	$440.22
*Trend **plus parity impact***	*9.38%*	***9.28%***	*8.98%*	*8.98%*	*8.98%*	*8.98%*
Gross Premium	$324.56	$354.66	$386.50	$421.21	$459.03	$500.24
Margin as % of gross premium	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*	*12.0%*
ANNUAL COST PER MEMBER						
Net Benefit Cost	$3,427	$3,745	$4,081	$4,448	$4,847	$5,283
Gross Premium	$3,895	$4,256	$4,638	$5,054	$5,508	$6,003
TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	$8,013	$8,774	$9,581	$10,462	$11,424	$12,475
Gross Premiums ($millions)	$9,106	$9,970	$10,887	$11,889	$12,982	$14,176
INCREASE IN PER-MEMBER PER-MONTH COST						
Net Benefit Cost	*$0.00*	*$0.85*	*$0.92*	*$1.01*	*$1.10*	*$1.19*
Gross Premium	*$0.00*	*$0.96*	*$1.05*	*$1.14*	*$1.25*	*$1.36*
INCREASE IN ANNUAL COST PER MEMBER						
Net Benefit Cost	*$0.00*	*$10.16*	*$11.07*	*$12.07*	*$13.15*	*$14.33*
Gross Premium	*$0.00*	*$11.55*	*$12.58*	*$13.71*	*$14.94*	*$16.29*
INCREASE IN TOTAL COST FOR FULLY INSURED PLANS						
Benefit Costs ($millions)	*$0.0*	*$23.8*	*$26.0*	*$28.4*	*$31.0*	*$33.8*
Gross Premiums ($millions)	*$0.0*	*$27.1*	*$29.5*	*$32.3*	*$35.2*	*$38.5*

Cost Projection for Proposed Substance Abuse Parity Law

Part 5a: Projected Costs of Substance Abuse Under Current Law

(Population Projections: Low and High)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
LOW POPULATION ESTIMATES:						
Fully Insured (incl. direct purchase)	2,007,374	2,011,389	2,015,412	2,019,443	2,023,482	2,027,529
Substance Abusing / Dependent	113,413	113,640	113,868	114,095	114,324	114,552
Pct. of fully insured	***5.6%***	*5.6%*	*5.6%*	*5.6%*	*5.6%*	*5.6%*
-> **Being Treated for SA**	18,033	18,069	18,105	18,141	18,177	18,214
Pct. of S.A./Dep.	*15.9%*	*15.9%*	*15.9%*	*15.9%*	*15.9%*	*15.9%*
-> **Untreated Subst. Ab. / Dep.**	95,381	95,571	95,763	95,954	96,146	96,338
Pct. of S.A./Dep.	*84.1%*	*84.1%*	*84.1%*	*84.1%*	*84.1%*	*84.1%*
HIGH POPULATION ESTIMATES:						
Fully Insured (not employer self-funded)	3,350,014	3,356,714	3,363,427	3,370,154	3,376,894	3,383,648
Substance Abusing / Dependent	197,100	197,494	197,889	198,285	198,681	199,079
Pct. of fully insured	***5.9%***	*5.9%*	*5.9%*	*5.9%*	*5.9%*	*5.9%*
-> **Being Treated for SA**	31,339	31,402	31,464	31,527	31,590	31,653
Pct. of S.A./Dep.	*15.9%*	*15.9%*	*15.9%*	*15.9%*	*15.9%*	*15.9%*
-> **Untreated Subst. Ab. / Dep.**	165,761	166,092	166,425	166,757	167,091	167,425
Pct. of S.A./Dep.	*84.1%*	*84.1%*	*84.1%*	*84.1%*	*84.1%*	*84.1%*
COST OF SUBSTANCE ABUSE						
COST PER SUBSTANCE-DEPENDENT PERSON						
-> **Being Treated for SA**	$6,901	$7,059	$7,222	$7,388	$7,558	$7,732
-> **Untreated Subst. Ab. / Dep.**	$12,313	$12,597	$12,886	$13,183	$13,486	$13,796
Growth rate	*2.3%*	*2.3%*	*2.3%*	*2.3%*	*2.3%*	*2.3%*
TOTAL COST FOR FULLY INSURED PERSONS IN MA ($millions)						
LOW-POPULATION COST ESTIMATES:						
-> **Persons Being Treated for SA**	$124	$128	$131	$134	$137	$141
-> **Untreated Persons**	$1,174	$1,204	$1,234	$1,265	$1,297	$1,329
TOTAL	$1,299	$1,331	$1,365	$1,399	$1,434	$1,470
HIGH-POPULATION COST ESTIMATES:						
-> **Persons Being Treated for SA**	$216	$222	$227	$233	$239	$245
-> **Untreated Persons**	$2,041	$2,092	$2,145	$2,198	$2,253	$2,310
TOTAL	$2,257	$2,314	$2,372	$2,431	$2,492	$2,555

Cost Projection for Proposed Substance Abuse Parity Law

Part 5b: Projected Costs of Substance Abuse Under Current Law

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
BEST ESTIMATE OF POPULATION:						
Fully Insured (incl. direct purchase)	2,338,011	2,342,687	2,347,372	2,352,067	2,356,771	2,361,485
Substance Abusing / Dependent	133,498	133,765	134,033	134,301	134,569	134,838
Pct. of fully insured	***5.7%***	*5.7%*	*5.7%*	*5.7%*	*5.7%*	*5.7%*
-> **Being Treated for SA**	21,226	21,269	21,311	21,354	21,397	21,439
Pct. of S.A./Dep.	*15.9%*	*15.9%*	*15.9%*	*15.9%*	*15.9%*	*15.9%*
-> **Untreated Subst. Ab. / Dep.**	112,272	112,496	112,721	112,947	113,173	113,399
Pct. of S.A./Dep.	*84.1%*	*84.1%*	*84.1%*	*84.1%*	*84.1%*	*84.1%*
COST OF SUBSTANCE ABUSE						
TOTAL COST FOR FULLY INSURED PERSONS IN MA ($millions)						
-> **Persons Being Treated for SA**	$146	$150	$154	$158	$162	$166
-> **Untreated Persons**	$1,382	$1,417	$1,453	$1,489	$1,526	$1,564
TOTAL	$1,529	$1,567	$1,606	$1,647	$1,688	$1,730

Cost Projection for Proposed Substance Abuse Parity Law

Part 6a: Projected Costs of Substance Abuse Under Proposed Law

(Low Estimate of Parity Impact: 0.10%)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
BEST ESTIMATE OF POPULATION:						
Fully Insured (incl. direct purchase)	2,338,011	2,342,687	2,347,372	2,352,067	2,356,771	2,361,485
Substance Abusing / Dependent	133,498	133,765	134,033	134,301	134,569	134,838
Pct. of fully insured	***5.7%***	*5.7%*	*5.7%*	*5.7%*	*5.7%*	*5.7%*
-> **Being Treated for SA**	21,226	22,403	22,448	22,493	22,538	22,583
Pct. of S.A./Dep.	*15.9%*	***16.7%***	*16.7%*	*16.7%*	*16.7%*	*16.7%*
-> **Untreated Subst. Ab. / Dep.**	112,272	111,362	111,585	111,808	112,032	112,256
Pct. of S.A./Dep.	*84.1%*	*83.3%*	*83.3%*	*83.3%*	*83.3%*	*83.3%*
COST OF SUBSTANCE ABUSE						
TOTAL COST FOR FULLY INSURED PERSONS IN MA ($millions)						
-> **Persons Being Treated for SA**	$146	$158	$162	$166	$170	$175
-> **Untreated Persons**	$1,382	$1,403	$1,438	$1,474	$1,511	$1,549
TOTAL	$1,529	$1,561	$1,600	$1,640	$1,681	$1,723
CHANGE (vs. current law)	*$0.0*	*-$6.3*	*-$6.4*	*-$6.6*	*-$6.8*	*-$6.9*

Cost Projection for Proposed Substance Abuse Parity Law

Part 6b(i): Projected Costs of Substance Abuse Under Proposed Law

(Med. Estimate of Parity Impact: 0.27%)

(Population Projections: Low and High)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
LOW POPULATION ESTIMATES:						
Fully Insured (incl. direct purchase)	2,007,374	2,011,389	2,015,412	2,019,443	2,023,482	2,027,529
Substance Abusing / Dependent	113,413	113,640	113,868	114,095	114,324	114,552
Pct. of fully insured	***5.6%***	*5.6%*	*5.6%*	*5.6%*	*5.6%*	*5.6%*
-> **Being Treated for SA**	18,033	20,631	20,673	20,714	20,755	20,797
Pct. of S.A./Dep.	*15.9%*	***18.2%***	*18.2%*	*18.2%*	*18.2%*	*18.2%*
-> **Untreated Subst. Ab. / Dep.**	95,381	93,009	93,195	93,381	93,568	93,755
Pct. of S.A./Dep.	*84.1%*	*81.8%*	*81.8%*	*81.8%*	*81.8%*	*81.8%*
HIGH POPULATION ESTIMATES:						
Fully Insured (not employer self-funded)	3,350,014	3,356,714	3,363,427	3,370,154	3,376,894	3,383,648
Substance Abusing / Dependent	197,100	197,494	197,889	198,285	198,681	199,079
Pct. of fully insured	***5.9%***	*5.9%*	*5.9%*	*5.9%*	*5.9%*	*5.9%*
-> **Being Treated for SA**	31,339	35,678	35,749	35,821	35,892	35,964
Pct. of S.A./Dep.	*15.9%*	***18.1%***	*18.1%*	*18.1%*	*18.1%*	*18.1%*
-> **Untreated Subst. Ab. / Dep.**	165,761	161,816	162,139	162,464	162,789	163,114
Pct. of S.A./Dep.	*84.1%*	*81.9%*	*81.9%*	*81.9%*	*81.9%*	*81.9%*
COST OF SUBSTANCE ABUSE						
COST PER SUBSTANCE-DEPENDENT PERSON						
-> **Being Treated for SA**	$6,901	$7,059	$7,222	$7,388	$7,558	$7,732
-> **Untreated Subst. Ab. / Dep.**	$12,313	$12,597	$12,886	$13,183	$13,486	$13,796
Growth rate	*2.3%*	*2.3%*	*2.3%*	*2.3%*	*2.3%*	*2.3%*
TOTAL COST FOR FULLY INSURED PERSONS IN MA ($millions)						
LOW-POPULATION COST ESTIMATES:						
-> **Persons Being Treated for SA**	$124	$146	$149	$153	$157	$161
-> **Untreated Persons**	$1,174	$1,172	$1,201	$1,231	$1,262	$1,293
TOTAL	$1,299	$1,317	$1,350	$1,384	$1,419	$1,454
CHANGE (vs. current law)	*$0.0*	*-$14.2*	*-$14.5*	*-$14.9*	*-$15.3*	*-$15.7*
HIGH-POPULATION COST ESTIMATES:						
-> **Persons Being Treated for SA**	$216	$252	$258	$265	$271	$278
-> **Untreated Persons**	$2,041	$2,038	$2,089	$2,142	$2,195	$2,250
TOTAL	$2,257	$2,290	$2,348	$2,406	$2,467	$2,528
CHANGE (vs. current law)	*$0.0*	*-$23.7*	*-$24.3*	*-$24.9*	*-$25.5*	*-$26.1*

Cost Projection for Proposed Substance Abuse Parity Law

Part 6b(ii): Projected Costs of Substance Abuse Under Proposed Law

(Med. Estimate of Parity Impact: 0.27%)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
BEST ESTIMATE OF POPULATION:						
Fully Insured (incl. direct purchase)	2,338,011	2,342,687	2,347,372	2,352,067	2,356,771	2,361,485
Substance Abusing / Dependent	133,498	133,765	134,033	134,301	134,569	134,838
Pct. of fully insured	***5.7%***	*5.7%*	*5.7%*	*5.7%*	*5.7%*	*5.7%*
-> **Being Treated for SA**	21,226	24,253	24,302	24,350	24,399	24,448
Pct. of S.A./Dep.	*15.9%*	***18.1%***	*18.1%*	*18.1%*	*18.1%*	*18.1%*
-> **Untreated Subst. Ab. / Dep.**	112,272	109,512	109,731	109,950	110,170	110,391
Pct. of S.A./Dep.	*84.1%*	*81.9%*	*81.9%*	*81.9%*	*81.9%*	*81.9%*
COST OF SUBSTANCE ABUSE						
TOTAL COST FOR FULLY INSURED PERSONS IN MA ($millions)						
-> **Persons Being Treated for SA**	$146	$171	$175	$180	$184	$189
-> **Untreated Persons**	$1,382	$1,379	$1,414	$1,449	$1,486	$1,523
TOTAL	$1,529	$1,551	$1,590	$1,629	$1,670	$1,712
CHANGE (vs. current law)	*$0.0*	*-$16.5*	*-$16.9*	*-$17.4*	*-$17.8*	*-$18.2*

Cost Projection for Proposed Substance Abuse Parity Law

Part 6c: Projected Costs of Substance Abuse Under Proposed Law

(High Estimate of Parity Impact: 0.41%)

(Population Projection: Best Estimate)

	2004	2005	2006	2007	2008	2009
POPULATION PROJECTION						
BEST ESTIMATE OF POPULATION:						
Fully Insured (incl. direct purchase)	2,338,011	2,342,687	2,347,372	2,352,067	2,356,771	2,361,485
Substance Abusing / Dependent	133,498	133,765	134,033	134,301	134,569	134,838
Pct. of fully insured	***5.7%***	*5.7%*	*5.7%*	*5.7%*	*5.7%*	*5.7%*
-> **Being Treated for SA**	21,226	25,762	25,813	25,865	25,917	25,969
Pct. of S.A./Dep.	*15.9%*	***19.3%***	*19.3%*	*19.3%*	*19.3%*	*19.3%*
-> **Untreated Subst. Ab. / Dep.**	112,272	108,003	108,219	108,436	108,653	108,870
Pct. of S.A./Dep.	*84.1%*	*80.7%*	*80.7%*	*80.7%*	*80.7%*	*80.7%*
COST OF SUBSTANCE ABUSE						
COST PER SUBSTANCE-DEPENDENT PERSON						
-> **Being Treated for SA**	$6,901	$7,059	$7,222	$7,388	$7,558	$7,732
-> **Untreated Subst. Ab. / Dep.**	$12,313	$12,597	$12,886	$13,183	$13,486	$13,796
Growth rate	*2.3%*	*2.3%*	*2.3%*	*2.3%*	*2.3%*	*2.3%*
TOTAL COST FOR FULLY INSURED PERSONS IN MA ($millions)						
-> **Persons Being Treated for SA**	$146	$182	$186	$191	$196	$201
-> **Untreated Persons**	$1,382	$1,360	$1,395	$1,429	$1,465	$1,502
TOTAL	$1,529	$1,542	$1,581	$1,621	$1,661	$1,703
CHANGE (vs. current law)	*$0.0*	*-$24.9*	*-$25.5*	*-$26.1*	*-$26.8*	*-$27.5*

II. METHODS, ASSUMPTIONS, AND SOURCES

We used the following methods and assumptions, with the sources noted, to derive the results shown and described in the first section of this report:

1. We took the 2002 Massachusetts population by age group and health insurance status (whether covered, and by what type of insurance) from the U.S. Census Bureau's Current Population Survey (CPS), 2003 Annual Social and Economic Supplement. Overlap categories (e.g., Medicaid and Medicare; Medicare and private health insurance) were allocated to the contributing categories in a manner that we considered to be reasonable and internally consistent. The numbers in each category were adjusted so that the sum equaled the most recent estimate of the total population of Massachusetts in 2002 from the U.S. Census Bureau.

2. The percentage of persons covered by employment-based insurance plans that are self-funded (as opposed to fully insured) was taken from the Medical Expenditure Panel Survey (MEPS) for 2001, produced by the U.S. Agency for Healthcare Research and Quality (AHRQ).

3. The result derived from Steps 1 and 2 was used as the low estimate of the "fully insured population" in Massachusetts in 2002 (including those who were covered by non-group policies that were purchased directly).

   We developed a high estimate of the fully insured population as follows:

   a. In place of the CPS statistics on the percentage of each age group that was uninsured in 2002, we used the corresponding statistics from the Division's report entitled *Health Insurance Status of Massachusetts Residents (Third Edition)*, published in January 2003.

   b. In place of the MEPS statistic on the percentage of persons covered by employment-based insurance who are in self-funded plans, we used the corresponding statistic from the Division's *2001 Employer Survey*.

   We used a 75%/25% weighting of the low and high population projections, respectively, to produce the "best estimate" population projection.

   The population growth rate for the projections is equal to the rate of growth of the population of Massachusetts between 2002 and 2003, as reported by the U.S. Census Bureau.

4. For Massachusetts residents with employment-based coverage, we determined the average premium per contract and the distribution of contracts by family status from the MEPSnet/IC database maintained by AHRQ. The distribution by family status (Single, Plus One, and Family) enabled us to estimate the average number of members per contract and from that derive the average premium per member. From this source we also got the same information on premiums and contract distributions for private-sector employers vs. public-sector employers (based on regional statistics for New England for the public employers), and for private-sector employers of different sizes. Finally, we took the ratio of premiums for direct-purchase policies vs. employment-based plans from *The Economic Burden of Health Care and Illness on Typical Massachusetts Families*, a report

written by Dryfoos, Kuhlthau, Bigby, Hanrahan, Lassen, and Robinson and sponsored by the Women's Education and Industrial Union, Boston, MA.

5. The net benefit costs were derived by assuming that 10% of the gross premium for employer-sponsored plans and 25% of the premium for individually purchased policies was used to cover the health insurers' expenses and margins.

6. Data on current benefit provisions, utilization rates, and costs for substance abuse benefits offered by Massachusetts health plans and insurers, and on the cost increases they expect to result from the proposed law, were provided by the Division from the survey responses they received from participating Massachusetts plans and insurers.

   The current (2003) utilization and cost statistics for Massachusetts health plans and insurers for substance abuse benefits are as follows:

Utilizers per 1,000 members	4.66
Encounters per utilizer (annual; IP & OP combined)	28.65
Encounters per 1,000 members (annual)	133.40
Cost per utilizer (annual)	$6,691
Cost per encounter	$233.55
Cost per member (annual)	$31.16
Cost per member (monthly)	$2.60

7. One of the smaller plans surveyed expects no increase in cost from substance abuse parity. Another plan (a larger one), expects a cost increase of $0.24 PMPM (0.06% of its net cost for all benefits), but it also said it expects parity to increase its total benefit costs by about $6.5M per year, which works out to about $0.41 PMPM (0.10% of its net cost for all benefits). I used 0.10% as the lower bound for the percentage increase in benefit costs and gross premiums across all plans in Massachusetts.

8. According to the Tillinghast HealthMAPS Medical Rate Manual and Software, the premium increase associated with the transition from a 30-day inpatient limit to parity with physical health is 0.26%, while the premium increase associated with the transition from a 24-visit outpatient limit to parity with physical health is 0.15%. Some plans will incur just the inpatient cost increase, some just the outpatient increase, and some will incur both increases (0.41%). I used 0.41% as the upper bound for the percentage increase in benefit costs and premiums across all plans in Massachusetts.

9. The average required increase in premium, weighted by plan enrollment, is 0.27%. Based on average benefit costs in 2001, projected forward to 2003, the low, medium, and high percentage cost increases of 0.10%, 0.27%, and 0.41% translate into PMPM benefit cost

increases of $0.27, $0.71, and $1.07, respectively. Projecting this forward to 2004 yields PMPM benefit cost increases of $0.32, $0.83, and $1.25.

10. The effect of these premium increase on the rate of coverage by employment-based plans was determined by applying the regression equations used in Lewin's Health Benefits Simulation model. The offer rate is determined using a probit model with a coefficient of the monthly premium equal to -0.00273 for single coverage and -0.00116 for family coverage. The take-up rate is determined using a logit model with a coefficient of the monthly premium equal to -1.0136 for both single and family coverage.

11. All benefit cost projections were accomplished using trends derived from the National Health Expenditure (NHE) projections, which are produced each year by the Office of the Actuary at the Centers for Medicare and Medicaid Services (CMS). The trend factors are 1.192 for 2003 (i.e., 2003 per-person costs were 19.2% higher than 2002 costs), 1.083 for 2004, and 1.079 for each year from 2005 through 2009.

12. Our estimate of the percentage of the fully insured population in Massachusetts that is substance-dependent is based in part on a report entitled *Results from the 2002 National Survey on Drug Use and Health: National Findings,* published last year by the Substance Abuse and Mental Health Services Administration of the U.S. Department of Health and Human Services. According to Section 8 of the report (pp. 55 – 67), 9.4% of U.S. residents age 12 and over in 2002 were classified as being substance abusing or substance dependent. The report also notes that this rate varies by region; for example, 8.7% of residents in the Northeast were substance dependent in 2002. The higher (national) and lower (regional) rates given in the report were used in our calculation of the high and low estimates, respectively, of the percentage of *fully insured* Massachusetts residents who are substance dependent.

    The other statistic that we used in our calculation is the percentage of persons being treated for substance abuse who are uninsured. According to the presentation entitled "Bureau of Substance Abuse Services: Admissions and Outcomes," prepared by Health and Addictions Research, Inc., dated July 2000, and available on the Bureau's web site at www.mass.gov/dph/bsas/bsas.htm, 42%those admitted to substance abuse treatment programs in Massachusetts are uninsured. If we combine the low estimate (8.7%) of the share of the total Massachusetts population that is substance dependent with our low estimate of the fully insured population, we can deduce that the share of the fully insured population that is substance dependent under this scenario is 5.6%. Combining the high estimate (9.4%) of the share of the total Massachusetts population that is substance dependent with our high estimate of the fully ensured population likewise yields our high-end estimate of 5.9% for the share of the fully insured population that is substance dependent. The medium or best estimate of this percentage is 5.7%.

13. We estimated the percentage of fully insured and substance-dependent persons who are receiving treatment for their condition based on the statistics reported in the *2002 National Survey on Drug Use and Health* report. We combined the numbers that were reported for the following: (a) the percentage of substance-dependent persons who actually received treatment (10.1%) and (b) the percentage who felt they needed treatment but did not receive it (5.8%). We included those who felt they needed but did not actually receive treatment because the percentage being treated is likely to be higher among insured persons than among the general substance-dependent population. By including the full "needed but didn't" group in our total, we might be overstating the percentage of fully insured substance-dependent persons who are receiving treatment. However, this should

not affect our estimate of the economic savings to society due to the proposed legislation (in Part 6). The savings estimate depends on the predicted *increase* in the number of persons receiving treatment, which in our model does *not* depend on the number of persons receiving treatment already.

14. The economic cost to society of illegal drug use was quantified in a report entitled *The Economic Costs of Drug Abuse in the United States*, which was prepared by The Lewin Group for the Office of National Drug Control Policy (ONDCP) and released in September 2001. Section VI of the report shows estimates of the annual societal cost of drug abuse for the years 1998 through 2000, and separate estimates are provided for health care costs, productivity losses, and other costs. We extrapolated from these numbers in two ways:

    a. We projected each category of economic cost forward to 2002 using a blend of the rates of increase from 1998 to 1999 and from 1999 to 2000 for that category. We then divided that by the number of drug abusers in the U.S. (1/3 of the 22 million substance abusers, from the *2002 National Survey on Drug Use and Health*) to get the 2002 cost per drug abuser: $2,352 in health care costs, $16,903 in productivity losses, and $5,240 in other costs, for a total of $24,495. This was trended forward to each year of the projection period using an annual rate of increase of 2.3% (which was the increase in the Consumer Price Index from 2002 to 2003).

    b. We estimated the economic cost per alcohol abuser (excluding those who also abuse drugs, who were included with the other drug abusers) by taking 50% of the health care cost per drug abuser plus 25% of the productivity loss per drug abuser. In essence, we assumed that the total health impact of substance abuse was equally divided between drug abusers and alcohol abusers, leading to a per-abuser figure for alcohol abuse equal to half of the figure for drug abuse. For productivity losses, we used a factor equal to only half of the factor we used for health care costs, since over half of the estimated productivity loss from drug abuse was attributable to incarceration and crime careers (which is much less of a factor for alcohol abuse). Almost all of the "other costs" associated with drug abuse was related to criminal activity, so we simply omitted this category for alcohol abusers. The result (in 2002) was: $1,176 in health care costs, and $4,226 in productivity losses, for a total of $5,402. The weighted average social economic cost per substance abuser came to $11,766 in 2002 and $12,313 in 2004.

15. The per-abuser cost derived above was used for substance abusers who are *not* being treated. For those who *are* being treated, we needed some measure of the efficacy of substance abuse treatment in ending or alleviating the problems that lead to these costs. This was provided by the report entitled *Substance Abuse Treatment Outcomes and System Improvements*, prepared by Health and Addictions Research, Inc. for the Massachusetts Bureau of Substance Abuse Services and dated June 2000, along with a related presentation entitled "Bureau of Substance Abuse Services Admissions and Outcomes," dated July 2000. Based on the statistics given in this report and presentation, we determined that, on average, substance abuse treatment resulted in a 69% reduction in inpatient admissions, a 30% reduction in unemployment, and a 95% reduction in criminal activity. After blending each of these percentages with the reported post-treatment reduction in substance abuse itself of 43%, we applied the adjusted reduction factors to the health care, productivity, and other losses (respectively) associated with substance abuse to arrive at a post-treatment social economic cost per substance abuser of $6,594 in 2002 and $6,901 in 2004.

16. The last quantity we had to estimate was the *increase* in the proportion of fully insured substance abusers who are being treated that would result from the proposed legislation. To get this number, we took the total dollar amount by which health insurance benefit costs would increase in 2005 (the year in which the proposed law is assumed to take effect) by the per-utilizer cost of substance abuse benefits, which was determined earlier to be $6,691 in 2003, or $7,819 if projected to 2005 using the NHE projection trends. The result is an increase in substance abusers being treated of 0.8% under the low-impact scenario, 2.2-2.3% under the medium-impact scenario, and 3.4% under the high-impact scenario.