



**Review and Evaluation of Proposed Legislation Entitled:
An Act Relative to Providing for Insurance Coverage for
Vision Screening for Children
House Bill 3931**

**Provided for
The Joint Committee on Health Care Financing
The Joint Committee on Financial Services**

May 2009



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Executive Summary

This report was prepared by the Division of Health Care Finance and Policy (Division) pursuant to the provisions of M.G.L. c. 3 § 38C requiring the Division to review and evaluate the impact of a mandated benefit bill referred to the agency by a legislative committee. The Joint Committee on Health Care Financing and the Joint Committee on Financial Services referred House Bill 3931, “An Act Relative to Providing for Insurance Coverage for Vision Screening for Children,” to the Division for review.

Overview of Current Law and Proposed Mandate

House Bill 3931 (H. 3931) would introduce reimbursement for vision screening services provided to children as required by Chapter 181 of the Acts of 2004, which amended Section 57 of Chapter 71, the Public School Law. Chapter 181 requires that all children entering kindergarten must present certification that they have passed a vision screening within the previous 12 months. Currently, some health insurers bundle coverage for vision screening services together with coverage and reimbursement for well-child visits. H. 3931 unbundles coverage for vision screening from the well-child visits. This will allow providers to bill for vision screenings provided to children, within 12 months prior to the start of kindergarten, separately from the well-child or routine visit to the doctor’s office. The proposed mandate also requires that insurers cover a comprehensive eye examination for children who fail to pass the vision screening test and for children diagnosed with neurodevelopmental delays.

Methodology

The Division prepared this review and evaluation of H. 3931 by conducting interviews with stakeholders, including legislative staff, insurers and experts in the Commonwealth; reviewing the relevant literature relative to vision screening; and conducting an actuarial analysis of the fiscal impact of H. 3931.

The review and evaluation of H. 3931 included the development of appropriate assumptions on claims costs, including assumptions about the rate of compliance among children entering kindergarten and the average cost of a vision screening.

Three different impact scenarios were developed—low, middle, and high—to present a range for the possible impact on costs. In addition, summary-level data from Massachusetts health plans was used to assess the reasonableness of estimates developed.

Results

In 2009, the projected increase in spending that would result from H. 3931 represents an increase in premiums from 0.00% to 0.01% or \$307,000 to just over \$1 million. The impact on per member per month (PMPM) premiums ranges from \$.01 to \$.03.

The five-year impact results are displayed in Exhibit 1. The results include three sets of estimates based on low, middle, and high impact scenarios corresponding to estimated premium increases of \$0.01, \$0.02, and \$0.03, respectively. In 2009, these three scenarios resulted in estimated increased total spending (including both claims spending and administrative expenses) of \$307,000, \$650,000, and just over \$1 million, respectively. These results were then trended forward five years using an annual trend rate of 5%, 6%, and 7% percent, respectively, for low, middle, and high impact scenarios.

Exhibit 1: Estimated Cost Impact of H. 3931 on Fully Insured Health Care Premiums (2009-2013)

	2009	2010	2011	2012	2013	All 5 Years
Fully Insured Enrollment	2,868,000	2,868,000	2,868,000	2,868,000	2,868,000	
Low Scenario						
Annual Impact Claims (000s)	\$276	\$290	\$304	\$320	\$336	\$1,526
Annual Impact Administration (000s)	\$31	\$32	\$34	\$35	\$37	\$169
Annual Impact Total (000s)	\$307	\$322	\$338	\$355	\$373	\$1,695
Premium Impact (PMPM)	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01	
Middle Scenario						
Annual Impact Claims (000s)	\$562	\$596	\$632	\$670	\$710	\$3,170
Annual Impact Administration (000s)	\$88	\$93	\$99	\$104	\$111	\$495
Annual Impact Total (000s)	\$650	\$689	\$731	\$774	\$821	\$3,665
Premium Impact (PMPM)	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	
High Scenario						
Annual Impact Claims (000s)	\$829	\$887	\$949	\$1,016	\$1,087	\$4,768
Annual Impact Administration (000s)	\$200	\$214	\$229	\$244	\$261	\$1,147
Annual Impact Total (000s)	\$1,029	\$1,101	\$1,178	\$1,260	\$1,348	\$5,915
Premium Impact (PMPM)	\$0.03	\$0.03	\$0.03	\$0.04	\$0.04	

Introduction

H. 3931 requires that health insurers cover vision screenings for children, within 12 months prior to the start of kindergarten, and a comprehensive eye examination for children who fail to pass the vision screening test and for children diagnosed with neurodevelopmental delays. The legislative intent of H. 3931 is to provide new reimbursement for vision screening services for children but not necessarily to provide new services.

Vision screenings are currently covered by health insurers in Massachusetts, but are typically provided to children during their well-child visit to their primary care physician. Insurers do not separately reimburse primary care physicians for this service. Comprehensive eye examinations, on the other hand, are currently covered by health insurers in Massachusetts, and insurers separately reimburse providers for this service.

Today, the rate of children receiving their vision screening during a well-child visit by their primary care physician in their so-called “medical home” (the central place where a child receives primary care) is estimated to be about 55 percent of children.¹ School nurses provide vision screenings to a large percentage of children who present to school without certification of a vision screening.

This bill would also ensure that providers receive a separate and discrete payment for vision screening for children, within existing policy and benefit level requirements and provider networks. The proposed mandate would potentially increase the percentage of vision screenings taking place in a child’s “medical home” by their primary care physician. It would, however, introduce no changes to the utilization of comprehensive eye examinations.

Summary of Current Law

All children entering public kindergarten must present certification that they have passed a vision screening within the previous 12 months. That requirement is in accordance with Chapter 181 of the Acts of 2004, which amended Section 57 of Chapter 71 of the General Laws (Public School Law).

More specifically, Chapter 181 requires that, upon entering kindergarten, the parent or guardian of each child must present to school health personnel certification that the child within the previous 12 months has passed a vision screening test. Parents or guardians must provide proof of a comprehensive eye exam for children who fail to pass the vision screening and for children diagnosed with a neurodevelopmental delay. That provision puts Massachusetts into the category of having what is known as a “mandatory follow-up policy.”

Further requirements of Chapter 181 include that the vision screening must be conducted by personnel approved by the Department of Public Health (DPH) and trained in vision screening techniques developed by DPH, in consultation with the Department of Elementary and Secondary Education.

Health insurers are not presently mandated to cover either vision screening or comprehensive eye examinations, but in general:

- Vision screening services are covered and provided by providers during a routine or well-child visit. Providers generally do not receive a separate reimbursement for that service by health insurers.
- Comprehensive eye examinations by an optometrist or ophthalmologist are separately and discretely covered and reimbursed by health insurers.

Summary of Proposed Mandate

H. 3931 responds to a request made by the Massachusetts Medical Society to require reimbursement for vision screening services provided to children as required by Section 57 of Chapter 71 of the Massachusetts General Laws.

Box 1: Definitions

Vision screenings for children can be performed at the time of a routine visit by a number of professionals including a pediatrician or other primary care physician. In general, a vision screening is focused on checking the accuracy of eyes, including that the eyes are straight and are working together. A vision screening might not detect other potential problems nor diagnose them. A vision screening would include a check for the most common types of problems, including:

- strabismus, a misalignment of the two eyes;
- amblyopia, reduced vision in an eye, which can be secondary to strabismus, and anisometropia (unequal refractive errors in both eyes, for example, if one eye is more farsighted than the other eye); and
- congenital cataracts and refractive errors, such as myopia (nearsightedness) or hypermetropia (farsightedness).

Comprehensive eye exams are performed by an optometrist or ophthalmologist. This type of exam involves a series of tests that allow for a thorough evaluation of the eyes that could be missed through a vision screening. Some of the most common tests include: retinoscopy, refraction, cover test, slit-lamp examination, glaucoma test, visual field test and dilation. A comprehensive eye examination would be able to detect for silent or asymptomatic eye diseases that could be missed through a vision screening.

H. 3931 would require commercial insurers including Health Maintenance Organizations (HMOs), Blue Cross Blue Shield Plans, as well as the Group Insurance Commission (GIC), to cover vision screening for children, within 12 months prior to the start of kindergarten. The proposed mandate also requires that those insurance carriers cover a comprehensive eye examination by a licensed optometrist or ophthalmologist chosen by the child's parent or guardian for children who fail

to pass the vision screening test and for children diagnosed with neurodevelopmental delays. (Medicaid is also subject to the requirements of H. 3931 but is not analyzed in this report, because it is not subject to the provisions of M.G.L. c. 3 § 38C.) See Box 1 for a description of vision screening and comprehensive eye exams.²

In effect, this bill would establish a separate and discrete payment for vision screening services, within the existing policy and benefit level requirements and provider networks.

Should H. 3931 become law, health insurers would be required to reimburse professionals performing the vision screening for children as a separate and discrete procedure from the physical examination. The introduction of reimbursement for this new service would likely increase the percentage of children receiving the vision screening by their primary care physician.

Health insurers currently reimburse providers separately and discretely for comprehensive eye exams. Because nearly all children currently receive a vision screening, be it from their primary-care physician or their school nurse, H. 3931 would introduce no new change to the utilization of comprehensive eye exams.

Background

In this section, the Division provides information on coverage of vision screenings and comprehensive eye examination benefits under private insurance, reviews federal activity and legislative initiatives in other states, and summarizes research evidence on the importance of vision care for children.

Visual Problems

According to experts, one out of four children in this country suffer from visual problems that hinder their ability to learn.³ This is extremely problematic for children, considering that 80 percent of what children learn comes through vision.⁴ The Centers for Disease Control and Prevention provide a context for the importance of this issue to children: “undetected and untreated vision problems can impact a child’s physical and emotional development. These children are at risk for developing reading difficulties, a short attention span, behavior problems in the classroom, and diminished performance in school.”⁵

Many abnormalities of the eyes are treatable if detected early.⁶ If left untreated, however, these abnormalities can lead to serious vision disorders, vision loss and blindness. See Box 2 for a discussion of amblyopia, or “lazy eye,” which is the most common cause of visual impairment in childhood.⁷

Many advocates for vision care for children have pushed for comprehensive eye examinations over vision screenings, believing that vision screenings are insufficient and miss many vision problems

Box 2: Amblyopia, Childhood’s Most Common Eye Disorder

Amblyopia, or “lazy eye,” is the most common cause of visual impairment in childhood.

- Amblyopia usually begins in infancy or childhood and is a condition of poor vision in an otherwise healthy eye, because the brain has learned to favor the other eye.
- The eye with amblyopia often looks normal but there is interference between normal visual processing that limits the development of a portion of the brain responsible for vision.
- Unless it is successfully treated in early childhood, amblyopia usually persists into adulthood, and is the most common cause of monocular (one eye) visual impairment among children and middle-aged adults.
- Daily eye “patching” is considered to be the most effective treatment of amblyopia.

affecting children, for one reason or another, including failure on the part of professionals to properly follow protocols and guidelines.

Rate of Compliance Among Children in Massachusetts

In Massachusetts today, nearly all children in public kindergarten receive their vision screening. (There are no reliable statistics to report on children in private kindergarten.) Some receive their vision screening within 12 months prior to the start of kindergarten during a routine well-child visit, while others receive their screening from the school nurse, who serves as a critical back up for the child.

Box 3: The Public School Law

In Massachusetts, the passage of Chapter 181 of the Acts of 2004 (amending Section 57 of Chapter 71, the Public School Law) served to energize the vision community around increasing the percentage of children receiving vision screenings prior to entering kindergarten. The law is also respected for its mandatory follow-up requirement, which requires that children receive a comprehensive eye examination if they fail to pass the vision screening and if they have a neurodevelopmental delay.

The amendment to Section 57 of Chapter 71 of M.G.L. reads:

“...Upon entering kindergarten or within 30 days of the start of the school year, the parent or guardian of each child shall present to school health personnel certification that the child within the previous 12 months has passed a vision screening conducted by personnel approved by the department of public health and trained in vision screening techniques to be developed by the department of public health in consultation with the department of education. For children who fail to pass the vision screening and for children diagnosed with neurodevelopmental delay, proof of a comprehensive eye examination performed by a licensed optometrist or ophthalmologist chosen by the child’s parent or guardian indicating any pertinent diagnosis, treatment, prognosis, recommendation and evidence of follow-up treatment, if necessary, shall be provided. Any child shall be exempt on religious grounds from these examinations upon written request of parent or guardian on condition that the laws and regulations relating to communicable diseases shall not be violated....”

After four years of concerted efforts on the part of public health officials involved in the Massachusetts Preschool Vision Screening Program, approximately 55 percent of children (that is the midpoint between 50 and 60 percent) receive their vision screenings in their “medical home” (or by their primary-care physician during a routine well-child visit). That rate of compliance is up from about 44 percent in 2005, an increase of 11 percentage points over the initial rate of vision screenings in 2005. Those children who present at the start of kindergarten without certification of a vision screening receive their vision screening from the school nurse.

There is no information readily available on the rate of vision screening for kindergarten-age children entering a private school, but it is believed to be lower than the 55 percent rate of vision screenings that exists among public school children.

Estimates of the percentage of children who receive their vision screening in their doctor's office or "medical home" ranges between 50 and 60 percent, with the school nurse in public schools serving as the back up for 40 to 50 percent of children who present to the school without certification of a vision screening.⁸ See Box 3 for more information about the track record in Massachusetts.⁹

School nurses play a critical role in providing vision screenings for those children who do not receive their vision screening during a routine visit. It is important to note that insurers do not reimburse for vision screenings performed by school nurses. Public health officials would argue that the "medical home" is the preferred location for children to receive vision screenings, due to concerns with the quality of the vision screenings, including conformance to protocols established for vision screenings.¹⁰

If a vision screening indicates the need for follow-up vision care, the child should receive a comprehensive eye examination from an optometrist or ophthalmologist. Comprehensive eye examinations are presently covered by insurance for children today.

Survey of Health Insurers

The Division asked six health insurers in Massachusetts to respond to a set of survey questions regarding their current coverage of vision screening services and comprehensive eye examinations. All six health insurers that were surveyed responded to the Division's survey. The responses were then blinded prior to interpreting the results of the survey responses, as summarized below:

- *Vision Screening.* All six insurers that responded to our survey reported that they presently cover vision screening services. Two insurers provide separate reimbursement when the primary-care physician performs the screening as part of the office visit, while the other four insurers do not reimburse primary care physicians separately for vision screenings from the well-child visit.
- *Comprehensive eye examinations.* All six insurers reported that they presently cover comprehensive eye examinations performed by an ophthalmologist or optometrist within the network when a child fails a vision screening test.

The Division also asked staff from the GIC and the Office of Medicaid (MassHealth) about current coverage and reimbursement for vision screenings and comprehensive eye examinations. In response, the Division learned that:

- MassHealth currently reimburses for vision screening and comprehensive eye examinations as separate and reimbursable services for children eligible for MassHealth. In addition, vision screening is a part of the Early Periodic Screening, Diagnosis, and Treatment (EPSDT) Program for which professionals receive reimbursement under a separate and discrete procedure code.
- The GIC generally follows the standard policies of its participating health plans.

Separate Reimbursement for Vision Screenings

Health insurance often bundles together coverage for vision screenings with the reimbursement that primary care physicians receive for a well-child visit. Should H. 3931 be approved, insurers would be required to reimburse for vision screening services as a separate and discrete service.

Public health officials believe that separate reimbursement for vision screenings would help to increase the rate of vision screenings that take place in the child's medical home, thereby improving the quality of the screenings and possibly earlier detection of eye problems as younger children receive their screenings.

In a national sample of pediatricians to evaluate preschool vision screenings, over 60 percent of the pediatricians who responded to the survey reported that there should be separate reimbursement for vision screening.¹¹ Such reimbursement has been advocated to offer financial incentive to physicians for the delivery of screenings, the adoption of new screening technologies, and better tracking of information on vision screenings.

Yet, public health experts also recognize that certain barriers to achieving full compliance with the requirements of the Public School law around vision screenings will exist beyond the financial incentives. In fact, close to 50 percent of overall respondents in this same survey of pediatricians reported that the "lack of child cooperation" with testing was a barrier to preschool vision screenings.¹²

Federal and State Legislative Activity

Federal Legislation Pending in the 111th Congress

With bipartisan support in the House of Representatives and the U.S. Senate, the Vision Care for Kids Act of 2009 was introduced in January of 2009. This bill, which was originally proposed in the 109th Congress but did not pass, is supported by both the Vision Council and the American Academy of Ophthalmology (AAO).¹³

The federal House bill (H.R. 577), sponsored by Congressman Green (D-Texas) and his cosponsors Sullivan (R-OK), Pascrell (D-NJ), Ros-Lehtinen (R-FL), Engel (D-NY), is otherwise known as the Vision Care for Kids Act of 2009. The language of the Senate version, (S. 259), sponsored by Senator Bond (R-MO) and his cosponsors Akaka (D-HI), Casey (D-PA), Collins (R-ME), Dodd (D-CT), Inouye (D-HI), Lieberman (I-CT), McCaskill (D-MO), and Tester (D-MT) closely matches the House bill.

This federal legislation would provide children with follow-up care after they are identified as having a potential vision problem through a comprehensive eye examination or vision screening. If approved, the bill would authorize the spending of \$65 million over five years, and would serve to complement existing state efforts that have vision screening programs in place for those with the lowest income by providing funding in the form of state grants for comprehensive eye examinations and treatment for uninsured children who fail a vision screening.

State Legislative Efforts

Over the years, state lawmakers have enacted legislation to promote early detection and treatment of vision problems in children. Around the country, states have been making significant changes to improve vision care programs for children.¹⁴

- Three states (Illinois, Kentucky, and Missouri) have passed legislation to require all children to receive an eye exam by an eye doctor before entering elementary school;
- Kentucky is the only state in the nation that has mandatory eye examinations; and
- Thirty-six states in total require a vision screening for children entering school, but twenty-six of these states do not require children who fail the screening to receive an eye exam by an eye doctor.

Based on the latest information for 2008, there are a total of 12 states that still do not require children to receive any vision assessment before starting school or while enrolled in school.

Methodological Approach

Overview of Approach

The Division engaged three consultants for this project: the actuarial firm, Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman), and independent consultants Ellen Breslin Davidson of EBD Consulting Services, LLC, and Tony Dreyfus. Oliver Wyman was hired to estimate the financial effect of the passage of H. 3931. Ellen Breslin Davidson was hired to review and evaluate the legislation, including working with Oliver Wyman to provide consultation on the methodology and assumptions for estimating the financial effects of H. 3931, with support from Tony Dreyfus to research the medical efficacy of vision screenings. Commonwealth Enterprise Group (CEG) secured the contract with the Division under which Ellen Breslin Davidson and Tony Dreyfus worked.

The following steps were taken to prepare the review and evaluation of H. 3931:

1. Conducted Interviews with Stakeholders.

The Division conducted interviews with stakeholders in the Commonwealth to ensure that it was accurately interpreting the proposed change in law, to understand the perceptions about how the law would be interpreted, if enacted, and expectations about its likely impacts. The Division completed interviews with legislative staff including Lisa Pellegrino from the office of Representative Ronald Mariano, the bill's sponsor, and Peri O'Connor of Representative Louis Kafka's office. The Division also spoke with experts in the preschool vision community, including Dr. Jean Ramsey of the Massachusetts Preschool Vision Screening Program.¹⁵

2. Reviewed Literature.

A review of the literature was conducted to determine the context of the proposed mandate, including the federal and state landscape, and eye problems facing children.

3. Prepared and Collected Survey Data from the Health Plans.

The Division asked that six health plans complete and submit their responses to a survey to determine the coverage policy and benefits of the plan relative to the proposed mandate. Responses were received from six health plans, plus additional information from MassHealth and the GIC, which were separately queried.

4. Developed Baseline for Massachusetts.

The Division's actuarial firm developed a baseline for Massachusetts. The baseline represents all costs already being paid by health insurers affected by the proposed mandate for vision screenings. All costs relative to comprehensive eye exams were excluded from the baseline because the Division does not anticipate any change in utilization for these exams as a result of the proposed mandate.

5. Applied Assumptions and Sensitivity Analysis to Methodology.

Model parameters to the Massachusetts-specific health plan baseline data, and a range of likely cost outcomes were developed from the proposed mandate. The increase in cost was measured relative to the baseline of costs.

Approach for Determining Medical Efficacy

M.G.L., c. 3 § 38C (d) requires the Division to assess the medical efficacy of mandating the benefit, including the impact of the benefit on the quality of patient care and the health status of the population and the results of any research demonstrating the medical efficacy of the treatment or service compared to alternative treatments or services or not providing the treatment or services. To determine the medical efficacy of H. 3931, the Division conducted a literature search of the research of the medical efficacy of detecting vision problems through vision screenings and comprehensive eye examinations, and the importance of the quality of the vision screenings in this discussion.

Approach for Determining the Fiscal Impact of the Mandate

Legal Requirements

M.G.L. c. 3 § 38C (d) requires the Division to assess nine different measures in estimating the fiscal impact of a mandated benefit:

1. Financial impact of mandating the benefit, including the extent to which the proposed insurance coverage would increase or decrease the cost of the treatment or the service over the next five years;
2. Extent to which the proposed coverage might increase the appropriate or inappropriate use of the treatment or service over the next five years;
3. Extent to which the mandated treatment or services might serve as an alternative to a more expensive or less expensive treatment or service;
4. Extent to which the insurance coverage may affect the number or types of providers of the mandated treatment or service over the next five years;
5. Effects of mandating the benefit on the cost of health care, particularly the premium, administrative expenses and indirect costs of large employers, small employers and non-group purchasers;
6. Potential benefits and savings to large employers, small employers, employees and non-group purchasers;
7. Effect of the proposed mandate on cost shifting between private and public payers of health care coverage;

8. Cost to health care consumers of not mandating the benefit in terms of out-of-pocket costs for treatment or delayed treatment; and
9. Effect on the overall cost of the health care delivery system in the Commonwealth.

Estimation Process

The following steps were followed to estimate the fiscal impact of this mandate:

- Estimate the size of the affected insured population;
- Estimate the baseline claims costs for the affected benefits;
- Estimate the utilization and cost per screening if the mandate is passed; and
- Estimate the impact of administrative expenses of the relevant insurers.

Following these steps, estimates were made for a five-year timeframe (2009-2013) for a range of “low case” to “high case” scenarios. Differences between scenarios were driven by these three factors:

1. Kindergarten-Age Children.

The number of children entering kindergarten was estimated in the affected population using data from the health plans. Data were not available on the number of children entering kindergarten by health insurers in Massachusetts.

2. Rate of Compliance.

The percentage of children entering kindergarten who receive their vision screenings in their “medical home,” as opposed to the school nurse was estimated for this analysis. Currently, the percentage of children receiving vision screenings during their routine well-child visit is estimated to be 55 percent. That percent includes all children regardless of insurance, and attendance in a public or private school. Should H. 3931 be enacted, the Division would expect the percentage of children who receive their vision screenings in their “medical home” to increase, (with a corresponding decrease in the percentage of screenings from the school nurse). Three different rates of compliance were developed to reflect the status quo and varying increases of compliance.

3. The Average Cost of a Vision Screening.

The average cost of a vision screening will most certainly differ across health plans.

For more detailed information on the methodological approach used to calculate the impact of vision screening (including the approach to calculating administrative costs), refer to the appendix to this report.

Summary of Findings

Medical Efficacy

Researchers have made considerable efforts to identify the benefits of early-childhood vision screening.¹⁶ The most common eye problem addressed is amblyopia, which is poor or complete loss of vision in an eye due to interrupted transmission from the eye to the brain. Research presented in the Cochrane Database that attempts to gather authoritative conclusions on evidence-based medicine concludes that the large literature on screening does not include convincing randomized trials.¹⁷ The authors caution that: “the absence of such evidence cannot be taken to mean that vision screening is not beneficial; simply that this intervention has not yet been tested in robust trials.”

Nonetheless, the American Academy of Pediatrics’ Committee on Practice and Ambulatory Medicine Section on Ophthalmology officially called for screening in 2002, asserting that “all children should be screened for risk factors associated with amblyopia.”¹⁸ Along with eye care associations such as the American Academy of Ophthalmology, the Committee argued in 2003 that: “Early detection and prompt treatment of ocular disorders in children is important to avoid lifelong visual impairment. Examination of the eyes should be performed beginning in the newborn period and at all well-child visits.”¹⁹

Research suggests a variety of reasons that screening may not be as effective as hoped. For example, fast screens may not find as many problems as comprehensive eye exams.²⁰ Further, the benefit of screening for children with mild vision problems is likely to be quite small.²¹ Without universal screening before kindergarten, the more serious cases may be identified sooner or later due to their easier identification and their greater effects on reading. Work in the United Kingdom to study the effects of screening, which had been reduced because of a lack of evidence of benefit, found that preschool screening did bring some improved treatment outcome but that “the improvement was clinically small and disappeared when considering all children offered screening rather than only those who received it.”²²

Two studies of different approaches to screening concluded that the approach of having pediatricians screen all children at age four may not be ideal. By analyzing prevalence and other data, one study concluded that having instead ophthalmologists screen infants would be the most effective approach.²³ Another study compared screening at age three to earlier and more intensive screening and found that earlier screening and treatment for amblyopia yielded better outcomes.²⁴

The failure of studies to establish the effectiveness of screening should be viewed with some skepticism, for the studies inevitably incorporate assumptions about value that could be subject to debate. A recent study in the UK, for example, shows that screening can prevent additional cases of amblyopia for a cost of only 3,000 to 6,000 British pounds. For researchers in cost-effectiveness who use the concept of “quality-adjusted life-years” (QALY) to identify life-extending and life-improving benefits from medical care, this cost appears high relative to its very small improvement in length and quality of life. Yet, the authors note, if they assume that a small effect on quality of life from losing vision in one eye does exist, then screening appears much more cost-effective. “When a small

effect is assumed (a reduction in utility of 2%), the incremental cost per QALY gained becomes extremely attractive for screening at both three and at four years."²⁵

Extensive research on vision screening has not clearly established its benefit or cost-effectiveness, though more rigorous controlled studies might do so. Yet pre-kindergarten screening, already required, probably does benefit some students and improves fairness to students entering a school environment where reading plays a key role. It also seems reasonable that the state require insurers to cover a health service that the state requires families and physicians to provide.

Financial Impact of Mandate

1. *The Division is required to assess the extent to which the proposed coverage would increase or decrease the cost of the treatment or the service over the next five years.*

The Division estimated the fiscal impact of the bill (see appendix) relative to the effect this mandate bill would have on vision screening services. The fiscal impact of the bill excludes consideration of comprehensive eye examinations, because of the negligible if not nonexistent impact of the bill on the utilization of this service.

- Estimated impacts of H. 3931 on Massachusetts health care premiums for fully insured products were calculated assuming that the 2009 premium for a fully insured member is \$4,800.
- The number of members in the affected population that will enter kindergarten in a given year was estimated.
- Low, middle, and high scenarios assume that 55%, 80%, and 90%, respectively, of children who will enter kindergarten in the next year will receive a vision screening by their primary care physician in their "medical home."
- Estimates were made of the cost per service for each scenario.
- The combination of these assumptions as well as administrative expense assumptions produced estimates of the total cost of the mandated benefits.
- Baseline premium levels were subtracted from the estimated total premium cost, producing estimated impacts on the premium of \$.01, \$.02, and \$.03 Per Member Per Month (PMPM) in 2009, to determine the cost increase due to the proposed mandate.
- The PMPM premiums 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 2. In 2009, these scenarios result in estimated increased total spending of \$307,000, \$650,000, and over \$1.0 million, respectively.

**Exhibit 2:
Estimated Cost Impact of H. 3931 on Fully Insured Health Care Premiums (2009-2013)**

	2009	2010	2011	2012	2013	All 5 Years
Fully Insured Enrollment	2,868,000	2,868,000	2,868,000	2,868,000	2,868,000	
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Premium Impact (PMPM)	\$0.03	\$0.03	\$0.03	\$0.04	\$0.04	

2. *The Division is required to assess the extent to which the proposed coverage might increase the appropriate or inappropriate use of the treatment or service over the next five years.*

There is no evidence or data available for the Division to quantify the extent to which the proposed coverage might affect the appropriate or inappropriate use of the treatment or service over the next five years. Should H. 3931 become law, however, it is estimated that more children may receive vision screenings in their “medical home” by their primary care physician or pediatrician. That would translate into fewer children receiving screenings by the school nurse at their public school. Vision screening experts support the “medical home” over a school as the more appropriate location for a vision screening. There are other reasons why some children do not receive their vision screening in their “medical home” by their pediatrician. The lack of cooperation with testing on the part of the child has been highlighted as a reason. The Division’s actuaries developed an assumption about the increase in vision screenings in a child’s “medical home,” while recognizing that such a rate of compliance would doubtfully reach 100 percent. The low, middle, and high scenarios assume that 55 percent, 80 percent, and 90 percent, respectively, of targeted children in kindergarten receive their vision screenings in the child’s medical home.

3. *The Division is required to assess the extent to which the mandated treatment or services might serve as an alternative to a more expensive or less expensive treatment or service.*

Close to 55 percent of children entering kindergarten receive their vision screening during a routine or well-child visit. A significant percentage of children, 45 percent, attending public schools present to the school without proof of a vision screening by their primary care physician. For those children, the school nurse serves as the back up and provides a vision screening to the child. The mandated benefit might serve as an alternative to a less expensive service to the extent that a larger percentage of children receive their vision screening in their medical home by their primary care physician.

4. *The Division is required to assess the extent to which the insurance coverage may affect the number or types of providers of the mandated treatment or service over the next five years.*

It is unlikely that H. 3931 would affect the number or types of providers of the mandated service.

5. *The Division is required to assess the effects of mandating the benefit on the cost of health care, particularly the premium, administrative expenses and indirect costs of large employers, small employers and non-group purchasers.*

H. 3931 will lead to an increase in health plan administrative costs. Exhibit 2 above includes administrative cost estimates.

6. *The Division is required to assess the potential benefits and savings to large and small employers, employees and non-group purchasers.*

It is unlikely that this mandate would produce any savings.

7. *The Division is required to assess the effect of the proposed mandate on cost shifting between private and public payers of health care coverage.*

The proposed mandate applies to fully insured commercial insurance carriers, Health Maintenance Organizations, and Blue Cross Blue Shield plans, as well as the GIC. The fiscal impact on Medicaid has been excluded from consideration in this report, because it is not subject to the provisions of M.G.L. c. 3 § 38C (d).

H. 3931 could lead to a cost shifting from school systems to insurers, as a larger percentage of children comply with the requirements of M.G.L. c. 71 § 57, and receive a vision screening in their “medical home” by their primary care clinician instead of at school by the school nurse. Yet, there is no evidence to inform whether and how much of a shift would occur.

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

There is no cost to consumers of not mandating the benefit in terms of out-of-pocket costs for treatment. It is reasonable to suggest that consumers may experience a delay in receiving treatment for visual problems, should vision screenings performed outside of the “medical home” fail to effectively screen the child.

9. *The Division is required to assess the effects on the overall cost of the health care delivery system in the Commonwealth.*

The estimated overall impact on health insurance premiums and spending is included in Exhibit 2 above. The overall impact on the health care delivery system would be higher than estimates shown in Exhibit 2, however. In 2009, the impact on the health care delivery system is estimated to be \$338,000, \$704,000, and over \$1.1 million, respectively (see appendix). These figures reflect that 55 percent of children in kindergarten are currently estimated to be receiving their vision screenings by their primary care physician, and are therefore already represented in the baseline of costs for vision screenings.

Endnotes

- ¹ Interview by phone with Jean E. Ramsey, MD, MPH Director, Pediatric Ophthalmology Service, Boston Medical Center Associate Professor of Ophthalmology and Pediatrics, Boston University School of Medicine
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www.preventblindness.org/vlc/child_eye_exam.htm#comprehensive

National Institutes of Health, National Eye Institute: www.nei.nih.gov/

The Vision Council:
www.thevisioncouncil.org/consumers/content_169.cfm?navID=37
- ³ The Vision Council, (July 2005), "Making the Grade? An analysis of state and federal children's vision care policy."
- ⁴ The Vision Council, (July 2005), "Making the Grade? An analysis of state and federal children's vision care policy."
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- ¹³ American Optometric Association, press release (2006).
- ¹⁴ Interview by phone with author, 2008/2009 update. The Vision Council, (July 2005), "Making the Grade? An analysis of state and federal children's vision care policy."
- ¹⁵ Interview by phone with Jean E. Ramsey, MD, MPH, Director, Pediatric Ophthalmology Service, Boston Medical Center Associate Professor of Ophthalmology and Pediatrics, Boston University School of Medicine
- ¹⁶ A Medline search identified 25 articles related to vision screening from 1998 to 2008, over half of which appeared relevant to the merits of pre-kindergarten screening.
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- ¹⁸ Committee on Practice and Ambulatory Medicine and Section on Ophthalmology; American Academy of Pediatrics. 2002. Use of photoscreening for children's vision screening. Pediatrics. Mar;109(3):524-5.
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**Appendix: Actuarial Review of Massachusetts
House Bill 3931, An Act Providing for
Insurance Coverage For Vision Screening
for Children**

February 26, 2009

**Actuarial Review of Massachusetts House
Bill 3931, An Act Providing for Insurance
Coverage for Vision Screening for Children**
Massachusetts Division of Health Care
Finance and Policy

OLIVER WYMAN

Dianna K. Welch, FSA, MAAA



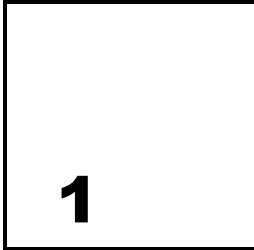
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Appendix A

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Introduction and Executive Summary

Introduction

Pursuant to M.G.L. Chapter 3, Section 38c, when reporting favorably on a mandated benefit bill, joint committees of the general court and the house and senate committees on ways and means are required to include a review and evaluation of the bill conducted by the Massachusetts Division of Health Care Finance and Policy (Division).

The Division has contracted with Oliver Wyman Actuarial Consulting, Inc. (Oliver Wyman) to perform an actuarial review of House Bill 3931, An Act Providing Insurance Coverage for Vision Screening for Children. Our analysis includes only the impact on the fully-insured, commercial market and the Group Insurance Commission (GIC). This market includes fully-insured plans offered by commercial insurers, Health Maintenance Organizations (HMOs), and Blue Cross and Blue Shield Plans as well as the GIC. It does not include Medicare Supplement or Medicare Advantage plans, Division of Medical Assistance, Commonwealth Care plans, or individual products offered prior to July 1, 2007. While the mandate bill also applies to the Division of Medical Assistance, our analysis is only intended to reflect the impact on the fully-insured commercial market and the GIC, consistent with the requirements of M.G.L. Chapter 3, Section 38c.

We have prepared this report for the sole use of the Division for the purpose described above, and we do not authorize parties other than the Division to use the information contained herein. Any party other than the Division who chooses to use or rely on the information presented in this report does so without our authorization. We have relied on our conversations with members of staff for State Representative Ron Mariano and Representative Louis Kafka to understand the intent of the bill. This report is not intended to be a legal interpretation of the bill as written.

Executive Summary

House Bill 3931, An Act Providing Insurance Coverage for Vision Screening for Children, would require health insurance policies to cover the cost of a vision screening for children conducted within the twelve month period prior to entering kindergarten. For children who fail the screening and for children diagnosed with neuro-developmental delay, the bill also would provide coverage of a comprehensive eye examination performed by a licensed optometrist or ophthalmologist including diagnosis, treatment, prognosis, recommendation, and evidence of follow-up treatment, if necessary. The full text of the bill is included in Appendix A.

M.G.L. Chapter 71, Section 57 (Public School Examination Law) requires that the parents of children entering public school kindergarten programs show that the child has passed a vision screening test within the last twelve months. For those who fail the screening or are diagnosed with a neuro-developmental delay, proof of a comprehensive eye exam must also be provided. The proof of a comprehensive eye exam must indicate any pertinent diagnosis, treatment, prognosis, recommendation, and evidence of follow-up treatment, if necessary. Furthermore, every private school that does not perform the examination must inform each parent that they do not perform it and must recommend to the parent that the parent consult with the child's health care provider to ensure the examination is performed.

According to discussions with members of staff for State Representative Ron Mariano and Representative Louis Kafka, House Bill 3931 is intended to make the coverage of the vision screening in insurance policies consistent with the school requirements. Vision screenings are already being provided to many children prior to entering kindergarten, however, in many cases the health care provider is not receiving reimbursement for performing the screening. The screening is often considered by insurers to be included in the reimbursement for the physical examination. The intent of this bill is to require insurers to reimburse providers separately for the vision screening and not permit insurers to consider the screening as already included in the payment for the physical examination. The intent is not to expand coverage for the comprehensive eye exam because it is believed that the examination is already covered by insurance policies in the marketplace. We do not expect an increase in utilization of comprehensive eye exams due to this mandate. Therefore, our financial estimates exclude any estimates for the comprehensive eye exam. They include only the financial impact of the separate payments for the vision screening itself.

We estimated the financial impact of the mandate on total and marginal costs. The total cost estimate reflects the full cost of the vision screening reimbursements that would be required by the bill based on our assumptions of cost and utilization levels that would exist under a mandate. However, there is already a baseline level of cost that is being paid by carriers. The marginal cost estimate reflects only the costs that are expected to be realized in addition to the baseline costs that are currently reimbursed for the affected population. The results of our five-year projections are included in the tables below.

Exhibit 1 shows the total and marginal impacts on a per member per month (PMPM) basis, while Exhibit 2 shows the total and marginal impacts on a dollar basis.

We estimate the total impact on premiums of the mandated benefits for the period from 2009 through 2013 to be approximately \$1,868,000 to \$6,296,000. On a marginal basis, we estimate that the mandate would increase premiums by \$1,695,000 to \$5,915,000 for the period from 2009 through 2013. Both the total premium and marginal premium estimates represent an increase in premium of 0.00% to 0.01%.

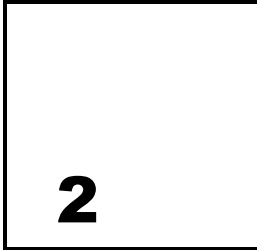
Exhibit 1

PMPM Claims and Premium due to House Bill 3931 Mandated Benefits						
Total Cost						
		<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
Claims	Low	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
	Middle	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
	High	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03
Premium	Low	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
	Middle	\$0.02	\$0.02	\$0.02	\$0.02	\$0.03
	High	\$0.03	\$0.03	\$0.04	\$0.04	\$0.04
Marginal Cost						
		<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
Claims	Low	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
	Middle	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
	High	\$0.02	\$0.03	\$0.03	\$0.03	\$0.03
Premium	Low	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
	Middle	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
	High	\$0.03	\$0.03	\$0.03	\$0.04	\$0.04

Exhibit 2

Claims and Premium due to House Bill 3931 Mandated Benefits

Estimate of Commercially Insured Population + GIC		2,868,000	2,868,000	2,868,000	2,868,000	2,868,000	
Total Cost (in \$000's)		<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2009 - 2013</u>
Claims	Low	\$304	\$319	\$335	\$352	\$370	\$1,681
	Middle	\$609	\$645	\$684	\$725	\$769	\$3,433
	High	\$882	\$944	\$1,010	\$1,081	\$1,157	\$5,075
Premium	Low	\$338	\$355	\$373	\$391	\$411	\$1,868
	Middle	\$704	\$746	\$791	\$838	\$889	\$3,968
	High	\$1,095	\$1,171	\$1,253	\$1,341	\$1,435	\$6,296
Marginal Cost (in \$000's)		<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2009 - 2013</u>
Claims	Low	\$276	\$290	\$304	\$320	\$336	\$1,526
	Middle	\$562	\$596	\$632	\$670	\$710	\$3,170
	High	\$829	\$887	\$949	\$1,016	\$1,087	\$4,768
Premium	Low	\$307	\$322	\$338	\$355	\$373	\$1,695
	Middle	\$650	\$689	\$731	\$774	\$821	\$3,665
	High	\$1,029	\$1,101	\$1,178	\$1,260	\$1,348	\$5,915



Analysis

Benefits

It is our understanding that this bill is intended to mandate that providers receive separate reimbursement for performing vision screenings. Currently, providers are often performing vision screenings as part of physical examinations prior to kindergarten to meet the requirements of the Public School Examination Law. Often the provider does not receive separate reimbursement for vision screenings because several insurers consider them to be a part of the physical examination. Therefore, no additional reimbursement is provided beyond the payment for the physical examination. This bill is intended to require insurers to provide separate reimbursement for vision screenings.

Process

The first step we took in estimating the impact of this bill was to understand the legislative intent of the bill. We had a conference call with Lisa Pellegrino, Health Policy Analyst in the Office of State Representative Ron Mariano, Chairman, Joint Committee on Financial Services, and Peri O'Connor, Administrative Aide to Representative Louis Kafka as well as policy analysts and consultants for the Division. Through this call and subsequent email communications, we were able to gain an understanding of the intent of the bill. The intent is to require reimbursement for vision screenings that are being performed to comply with the Public School Examination Law. The intent is not to require coverage of new services that are not currently being performed. Our analysis estimates the financial impact of the intent of this bill and does not include a legal interpretation of the language in the bill.

Next we estimated the financial impact of the bill. This involved estimating the size of the affected population, the utilization of the service, the cost of the service, and the administrative cost associated with the service. Additional detail for each of these steps is provided in the sections that follow.

Affected Population

The population whose premiums will be affected by this mandate is the commercially insured population and the GIC. To estimate the size of this population we reviewed the 2007 financial statements of companies filing Health Annual Statements with commercial membership in Massachusetts. However, there are companies that insure commercial members in Massachusetts that do not file Health Annual Statements. We included an estimate of members for companies not filing Health Annual Statements in our total membership estimate. Next, we made an adjustment for the increase in coverage that has occurred since 2007 as a result of the health care reform law that was passed by Massachusetts in 2006¹. In December 2008, the Division issued a press release indicating that the percentage of Massachusetts residents who remain uninsured is 2.6%², down from previous estimates of 5-7% in 2007^{3,4}. Using these estimates of the reduction in the percentage of residents that are uninsured, we estimated the increased number of insured residents. To estimate the number of fully-insured commercial members, we then subtracted out the increased enrollment in subsidized insurance through Commonwealth Care from the total insured residents. Commonwealth Care enrollment was 162,726 as of December 2008⁵. Ultimately, we arrived at an estimated commercial insurance population of 2,574,000 as of the end of 2008. We estimated the size of the GIC to be 294,000⁶. Therefore, the estimated size of the affected population is 2,868,000.

Next we estimated the affected population as of 2009-2013 in order to perform our five-year projections. The U.S. Census Bureau has projected the Massachusetts population to grow by 10.4% from 2000 to 2030⁷. This represents an average annual growth rate of 0.3%. However, the population age 65 or greater is projected to grow at an annual rate of 1.8%. This corresponds to essentially no growth in the under 65 age group. Because the affected population is predominantly under age 65, we are projecting no change in the affected population over the five-year projection period.

¹ Massachusetts General Laws.

<http://www.mass.gov/legis/laws/seslaw06/sl060058.htm>

² Division of Health Care Finance and Policy.

http://www.mass.gov/?pageID=eohhs2pressrelease&L=4&L0=Home&L1=Government&L2=Departments+and+Divisions&L3=Division+of+Health+Care+Finance+%26+Policy&sid=Eeohhs2&b=pressrelease&f=081218_health_insurance&csid=Eeohhs2

³ U.S. Census Bureau.

http://pubdb3.census.gov/macro/032008/health/h06_000.htm

⁴ Kaiser Daily Health Policy Report.

http://www.kaisernetwork.org/daily_reports/health2008dr.cfm?DR_ID=52498

⁵ Commonwealth Connector, Connector Summary Report from Connector Board Meeting January 15, 2009.

⁶ Commonwealth of Massachusetts Group Insurance Commission.

<http://www.mass.gov/gic/> Accessed January 27, 2009.

⁷ U.S. Census Bureau, Population Division, Interim State Population Projections, 2005.

Utilization of Services

The population that would utilize the services mandated by House Bill 3931 is children who will enter kindergarten within twelve months. For this study, we obtained permission from six of the carriers that participated in the study that the Massachusetts Division of Insurance conducted, Trends in Health Claims for Fully-Insured, Health Maintenance Organizations in Massachusetts, 2002-2006⁸ (Trend Study) to use the data provided for that study to support this mandated benefit study. The list of the six participating carriers is in Appendix B. The data included membership by five-year age brackets. We used the membership data to estimate that 1.4% of fully-insured commercial members would enter kindergarten in a given year. We also used census data to check the reasonableness of our results and found them to be reasonable. Based on our estimate of the affected population of 2,868,000, we would expect approximately 40,000 members of the affected population to enter kindergarten in a given year.

As part of the testimony on this bill that was provided to us by the Division, we received a memorandum written by Jean E. Ramsey, MD, on the Massachusetts Preschool Vision Screening Program⁹. The stated goals of the program are twofold:

1. To ensure that every preschool child has a vision screening performed by someone trained in the assessment of vision in young children, using the Massachusetts Preschool Vision Screening Protocol.
2. To ensure that every child who does not pass the vision screening has a comprehensive eye exam and appropriate follow up and treatment as necessary.

One of the more specific goals of the program is for all children to receive the screening at the office of the primary care physician (PCP). 95% of children have a PCP according to the memorandum. Aggressive education has been done since the Public School Examination Law was revised in 2004 to include a vision screening requirement. Surveys of family physicians in 2005 and 2007 revealed a significant increase in awareness of the vision screening component of the Public School Examination Law and the screening protocols. The memorandum recommended continued education. In addition, the physical examination form that is filled out by the physician has been modified to indicate the results of the vision screening. Despite the outreach that has been done to date, Dr. Ramsey estimates that roughly 50% to 60% of children entering public school kindergarten have had a vision screening performed by their PCP. Those that have not had the screening done by their PCP are screened by the school nurse. It is believed that compliance in private school children is lower. Therefore, we have assumed 55% compliance for our low estimate, assuming that there is no further improvement in compliance as a result of the mandated reimbursement. For our middle estimate we have

⁸ Oliver Wyman, Report to the Health Care Access Bureau of the Massachusetts Division of Insurance, Trends in Health Claims for Fully-Insured, Health Maintenance Organizations in Massachusetts, 2002-2006.

⁹ Ramsey, Jean E., M.D., Memorandum to Sally Fogerty, Assistant Commissioner of Public Health, Subject: The Massachusetts Preschool Vision Screening Program: Update, May 15, 2007.

assumed 80% compliance, reflecting that it is possible that additional screenings have been performed but were not well documented, that compliance could be higher than average within a commercially insured population, and that utilization could increase if physicians are reimbursed for performing the vision screening. Our high estimate assumes that compliance will improve to 90%.

Cost of the Screening

The next step of our analysis was to estimate the cost of the vision screening. The primary source of data that we used to estimate the cost is the carrier data that was provided for the Trend Study. Some of the carriers that participated in the Trend Study already provide separate reimbursement for vision screenings. Others that indicated they do not provide separate reimbursement did provide reimbursement on certain claims. We used this data to determine our range of average costs. Because several carriers do not provide for routine reimbursement of the service, we also reviewed industry data to check the reasonableness of our results. We found that the range that we determined of approximately \$12 to \$21 per service based on the carrier data was reasonable.

The carrier data that we used was from calendar year 2006. We trended the cost per service to 2009 using an annual cost per service trend of 6% for our middle estimate. This trend is the average five-year cost per service trend for hearing exams, hearing aids, and vision services from the Trend Study. For our low and high estimates, we used trend assumptions of 5% and 7%, respectively.

Because the vision screenings are performed as part of a physical examination, we assumed there would be no additional member cost sharing applied as a result of reimbursing separately for this service. We assumed that the office visit copayment that is typically paid by the member for this type of service would remain unchanged. Therefore, the full cost of the service is assumed to be borne by the carrier, resulting in premium increases reflecting the full cost of the service. Note that we have also assumed that carriers would not implement a corresponding reduction in the reimbursement for physical examinations as a result of this mandate.

Comprehensive Eye Exam

At the recommendation of the Representatives' offices, we did not perform an analysis of the cost of the comprehensive eye exam. It is their understanding that the comprehensive eye exam is already covered by the carriers in Massachusetts. The mandated benefit bill was written with the comprehensive eye exam language to be consistent with the Public School Examination Law and not with the intention of increasing coverage of comprehensive eye exams.

In order to validate this assumption, we surveyed the participating carriers to find out if in fact they would cover the comprehensive eye exam under their current coverage policies. All of the plans participating in the survey (see Appendix B) provide coverage for comprehensive eye exams performed as a result of a failed vision screening.

Furthermore, because all children are believed to be screened currently, either by their PCP or by the school nurse, we do not believe the utilization of comprehensive eye exams will increase as a result of increased vision screenings performed by the PCP.

Administrative Expense and Profit

Increases in benefits also result in increases in administrative expenses and contributions to surplus or profit. In 2008, Oliver Wyman performed an expense study for the Division of Insurance¹⁰ (Expense Study). This was a five-year study that analyzed expense ratios and loss ratios of the Commonwealth's HMOs and Blue Cross and Blue Shield Plans. The study found that the average loss ratio in Massachusetts for 2002 through 2007 was 86.5%, meaning 13.5% of premium is available for retention items, including administrative expense and contribution to surplus. We used this 13.5% retention ratio to estimate the amount that would be included for retention in premium increases for the mandated benefits. The low and high ends of the ranges were based on the lowest and highest five-year average retention percentages of the health plans included in the analysis.

Marginal Costs

Some vision screenings are already being reimbursed in the affected population. Using the carrier data and assumptions for those carriers that were not surveyed, we have estimated the baseline costs in the affected population based on current coverage levels, utilization levels, and projected cost per service levels. The difference between the total expected cost under the mandate and the baseline costs produce our marginal cost estimates.

Results

The following exhibit shows the results of our analysis.

¹⁰ Oliver Wyman, Analysis of Administrative Expenses for Health Insurance Companies in Massachusetts, September 2008.

Exhibit 3

Development of Total Cost and Marginal Cost Estimates of House Bill 3931

Total Cost Estimates

		<u>Low</u>	<u>Middle</u>	<u>High</u>
% of membership expected to enter Kindergarten during year	(A)	1.4%	1.4%	1.4%
% of Kindergarteners whose screenings are performed by PCP	(B)	55%	80%	90%
% of membership utilizing benefit during the year	(C) = A*B	0.7%	1.1%	1.2%
Cost of vision screening in 2006	(D)	\$12	\$16	\$21
Cost per service trend	(E)	5.0%	6.0%	7.0%
Estimated cost of vision screening in 2009	(F) = D*(1+E)^3	\$14.23	\$19.58	\$25.22
2009 Claims cost PMPM	(G) = C*F/12	\$0.01	\$0.02	\$0.03
Admin & contribution to surplus ratio	(H)	10.0%	13.5%	19.4%
Premium PMPM (with Admin)	(I) = G/(1-H)	\$0.01	\$0.02	\$0.03

Baseline Costs

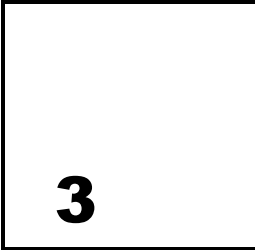
Baseline Claims Cost PMPM	(J)	\$0.001	\$0.001	\$0.002
Baseline Premium PMPM	(K)	\$0.001	\$0.002	\$0.002

Marginal Costs

Marginal Claims Cost PMPM	(L) = G-J	\$0.01	\$0.02	\$0.02
Marginal Premium Increase PMPM	(M) = I-K	\$0.01	\$0.02	\$0.03

Both the total premium and marginal premium estimates represent an increase in premium of 0.00% to 0.01% based on an average annual premium per member of roughly \$4,800¹¹.

¹¹ Average commercial group premium per member is from 2007 financial statements of companies filing health statements, trended to 2009 at an annual rate of 7%.



Five-Year Projection

The following two exhibits show the results of our five-year projections of the financial impact of the mandated benefits on the fully-insured commercial market and the GIC. Exhibit 4 shows the impact on a PMPM basis, while Exhibit 5 shows the impact on a dollar basis.

Exhibit 4

PMPM Claims and Premium due to House Bill 3931 Mandated Benefits						
Total Cost						
		<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
Claims	Low	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
	Middle	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
	High	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03
Premium	Low	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
	Middle	\$0.02	\$0.02	\$0.02	\$0.02	\$0.03
	High	\$0.03	\$0.03	\$0.04	\$0.04	\$0.04
Marginal Cost						
		<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
Claims	Low	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
	Middle	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
	High	\$0.02	\$0.03	\$0.03	\$0.03	\$0.03
Premium	Low	\$0.01	\$0.01	\$0.01	\$0.01	\$0.01
	Middle	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02
	High	\$0.03	\$0.03	\$0.03	\$0.04	\$0.04

Exhibit 5

Claims and Premium due to House Bill 3931 Mandated Benefits

Estimate of Commercially Insured Population + GIC		2,868,000	2,868,000	2,868,000	2,868,000	2,868,000	
Total Cost (in \$000's)		<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2009 - 2013</u>
Claims	Low	\$304	\$319	\$335	\$352	\$370	\$1,681
	Middle	\$609	\$645	\$684	\$725	\$769	\$3,433
	High	\$882	\$944	\$1,010	\$1,081	\$1,157	\$5,075
Premium	Low	\$338	\$355	\$373	\$391	\$411	\$1,868
	Middle	\$704	\$746	\$791	\$838	\$889	\$3,968
	High	\$1,095	\$1,171	\$1,253	\$1,341	\$1,435	\$6,296
Marginal Cost (in \$000's)		<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2009 - 2013</u>
Claims	Low	\$276	\$290	\$304	\$320	\$336	\$1,526
	Middle	\$562	\$596	\$632	\$670	\$710	\$3,170
	High	\$829	\$887	\$949	\$1,016	\$1,087	\$4,768
Premium	Low	\$307	\$322	\$338	\$355	\$373	\$1,695
	Middle	\$650	\$689	\$731	\$774	\$821	\$3,665
	High	\$1,029	\$1,101	\$1,178	\$1,260	\$1,348	\$5,915

We trended claims and premiums forward at the 5%, 6%, and 7% cost per service trends shown in Exhibit 3 for our low, middle, and high estimates, respectively. By using the same trend for claims and premium, we are assuming that the loss ratio remains constant. Over the five-year period covered by the Expense Study, the Massachusetts total loss ratio fluctuated from year to year, but remained within 0.6% of the five-year average.

We estimate the total premium cost of the mandated benefits for the period from 2009 through 2013 to be approximately \$1,868,000 to \$6,296,000. On a marginal basis, we estimate that the mandate would increase premiums by \$1,695,000 to \$5,915,000 for the period from 2009 through 2013.

Appendix A

House Bill 3931

AN ACT PROVIDING FOR INSURANCE COVERAGE FOR VISION SCREENING FOR CHILDREN.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Chapter 32A of the General Laws as appearing in the 2004 Official Edition, is hereby amended by inserting after section 17H the following section: —

Section 17I. The commission shall provide to any active or retired employee of the commonwealth who is insured under the group insurance commission coverage for the cost of a vision screening for children conducted within 12 months prior to entering kindergarten, pursuant to the first paragraph of section 57 of Chapter 71, as most recently amended by Chapter 181 of the Acts of 2004. The vision screening shall be conducted by personnel approved by the department of public health and trained in vision screening techniques developed by the department of public health in consultation with the department of education.

For children who fail to pass the vision screening and for children diagnosed with neurodevelopmental delay, the commission shall provide coverage of a comprehensive eye examination performed by a licensed optometrist or ophthalmologist chosen by the child's parent or guardian indicating any pertinent diagnosis, treatment, prognosis, recommendation and evidence of follow-up treatment, if necessary.

SECTION 2. Chapter 118E of the General Laws as appearing in the 2004 Official Edition, is hereby amended by inserting after section 10F the following section: —

Section 10G. The division shall provide coverage for the cost of a vision screening for children conducted within 12 months prior to entering kindergarten, pursuant to the first paragraph of section 57 of Chapter 71, as most recently amended by Chapter 181 of the Acts of 2004. The vision screening shall be conducted by personnel approved by the department of public health and trained in vision screening techniques developed by the department of public health in consultation with the department of education.

For children who fail to pass the vision screening and for children diagnosed with neurodevelopmental delay, the division shall provide coverage of a comprehensive eye examination performed by a licensed optometrist or ophthalmologist chosen by the child's parent or guardian indicating any pertinent diagnosis, treatment, prognosis, recommendation and evidence of follow-up treatment, if necessary.

SECTION 3. Chapter 175 of the General Laws as appearing in the 2004 Official Edition, is hereby amended by inserting after section 110L the following section: —

Section 110M. Any blanket or general policy of insurance which is delivered or issued for delivery within or without the commonwealth and which covers residents of the commonwealth and any employees health and welfare fund which is promulgated or renewed to any person or group of persons in the commonwealth shall provide coverage for a vision screening for children conducted within 12 months prior to entering kindergarten, pursuant to the first paragraph of section 57 of Chapter 71, as most recently amended by Chapter 181 of the Acts of 2004. The vision screening shall be conducted by personnel approved by the department of public health and trained in vision screening techniques developed by the department of public health in consultation with the department of education.

For children who fail to pass the vision screening and for children diagnosed with neurodevelopmental delay, coverage shall be provided for a comprehensive eye examination performed by a licensed optometrist or ophthalmologist chosen by the child's parent or guardian indicating any pertinent diagnosis, treatment, prognosis, recommendation and evidence of follow-up treatment, if necessary.

SECTION 4. Chapter 176A of the General Laws as appearing in the 2004 Official Edition, is hereby amended by inserting after section 8Y the following section:—

Section 8Z. Any contract between a subscriber and the corporation under an individual or group hospital service plan that provides hospital expense and surgical expense insurance, delivered, issued, or renewed by agreement between the insurer and the policyholder; within or without the commonwealth, shall provide coverage for a vision screening for children conducted within 12 months prior to entering kindergarten, pursuant to the first paragraph of section 57 of Chapter 71, as most recently amended by Chapter 181 of the Acts of 2004. The vision screening shall be conducted by personnel approved by the department of public health and trained in vision screening techniques developed by the department of public health in consultation with the department of education.

For children who fail to pass the vision screening and for children diagnosed with neurodevelopmental delay, coverage shall be provided for a comprehensive eye examination performed by a licensed optometrist or ophthalmologist chosen by the child's parent or guardian indicating any pertinent diagnosis, treatment, prognosis, recommendation and evidence of follow-up treatment, if necessary.

SECTION 5. Chapter 176B of the General Laws as appearing in the 2004 Official Edition, is hereby amended by inserting after section 4Y the following section:—

Section 4Z. Any subscription certificate under an individual or group medical service agreement which provides hospital expense and surgical expense insurance, delivered, issued, or renewed by agreement between the insurer and the policyholder, within or without the commonwealth, shall provide coverage for a vision screening for children conducted within 12 months prior to entering kindergarten, pursuant to the first paragraph of section 57 of Chapter 71, as most recently amended by Chapter 181 of the Acts of 2004. The vision screening shall be conducted by personnel approved by the department of public health and trained in vision screening techniques developed by the department of public health in consultation with the department of education.

For children who fail to pass the vision screening and for children diagnosed with neurodevelopmental delay, coverage shall be provided for a comprehensive eye examination performed by a licensed optometrist or ophthalmologist chosen by the child's parent or guardian indicating any pertinent diagnosis, treatment, prognosis, recommendation and evidence of follow-up treatment, if necessary.

SECTION 6. Chapter 176G of the General Laws as appearing in the 2004 Official Edition, is hereby amended by inserting after section 4Q the following section:—

Section 4R. Any group health maintenance contract, except contracts providing supplemental coverage to Medicare or to other government programs, delivered, issued or renewed by agreement within or without the commonwealth shall provide to a member or enrollee coverage for a vision screening for children conducted

within 12 months prior to entering kindergarten, pursuant to the first paragraph of section 57 of Chapter 71, as most recently amended by Chapter 181 of the Acts of 2004. The vision screening shall be conducted by personnel approved by the department of public health and trained in vision screening techniques developed by the department of public health in consultation with the department of education.

For children who fail to pass the vision screening and for children diagnosed with neurodevelopmental delay, coverage shall be provided for a comprehensive eye examination performed by a licensed optometrist or ophthalmologist chosen by the child's parent or guardian indicating any pertinent diagnosis, treatment, prognosis, recommendation and evidence of follow-up treatment, if necessary.

Appendix B

**List of Carriers That Provided Permission to Use
Massachusetts Division of Insurance Trend Study Data and
Provided Survey Responses**

Blue Cross and Blue Shield of Massachusetts, Inc. and Blue Cross and Blue Shield of
Massachusetts HMO Blue, Inc.

Fallon Community Health Plan

Health New England, Inc.

Harvard Pilgrim Health Care, Inc.

Neighborhood Health Plan

Tufts Associated Health Maintenance Organization, Inc.

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Oliver Wyman Actuarial Consulting, Inc.



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GUY CARPENTER OLIVER WYMAN