Review and Evaluation of Proposed Legislation Entitled: An Act Relative to Coverage for Prescription Drug Voice Synthesizers Senate Bill 564

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

May 2009

Deval L. Patrick, Governor
Commonwealth of Massachusetts

Timothy P. Murray
Lieutenant Governor

JudyAnn Bigby, Secretary
Executive Office of Health and Human Services

Sarah Iselin, Commissioner
Division of Health Care Finance and Policy

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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 Financial Services and the Joint Committee on Health Care Financing referred Senate Bill 564 "An Act Relative to Prescription Drug Voice Synthesizers" to the Division for review.

Overview of Current Law and Proposed Mandate

Senate Bill 564 (S. 564) would mandate coverage for the expense of a medically prescribed voice synthesizer for any person who is legally blind or visually impaired. Institutions, businesses, and organizations that regularly provide services to disabled persons would be required to inform them that voice synthesizers are available. Currently, health insurers in Massachusetts are not required to provide coverage for medically prescribed voice synthesizers to any person.

As currently written, S. 564 applies to the commercially insured population and to persons who are legally blind and visually impaired. It is the Division's understanding, however, that S. 564 will be redrafted in the new legislative session to apply this mandate to all fully insured persons and the Group Insurance Commission (GIC), with the exception of Medicaid and Medicare, as well as to persons for whom English is a second language ("ESL"). The Division's review and evaluation of S. 564 incorporates this intended redraft.

Methodology

The Division prepared this review and evaluation of S. 564 by conducting interviews with stakeholders, including legislative staff, insurers and experts in the Commonwealth; speaking with industry officials; reviewing the relevant literature relative to prescription drug voice synthesizers; and conducting an actuarial analysis of the fiscal impact of S. 564.

The review and evaluation of S. 564 included the development of appropriate assumptions on claims costs, including assumptions about the size of the targeted population and their related demand for prescription drug voice synthesizers, and the types of products on the market.

Three different impact scenarios were developed—low, middle, and high—to present a range for the possible impact on costs.

Results

In 2009, the projected increase in spending that would result from S. 564:

- Excluding ESL: As presently drafted, the projected increase in spending that would result from S. 564, excluding coverage for ESL, represents an increase in premiums of $289,000 to $3.3 million (see Exhibit 2a). The impact on per member per month (PMPM) premiums ranges from $.01 to $.10.
- Including ESL: Including the ESL population, the projected increase in spending that would result from S. 564 represents an increase in premiums of 0.00% to 0.03% or $478,000 to $4.7 million (see Exhibit 2b). The impact on PMPM ranges from $.01 to $.14.

The cost impact of each population is shown in Exhibit 1 below based on the "middle scenario." Most noteworthy about the numbers is the significant impact that estimated administrative expenses of $686,000, which include notification requirements, have on the results in the first year.

Exhibit 1: Estimated Cost Impact of S. 564 on Fully Insured Health Care Premiums (2009) for Persons who Are Blind/Visually Impaired and Persons for whom English Is a Second Language (ESL)

Middle Scenario	Blind/Visually Impaired n=31,500	ESL Persons n=100,380	Total
Annual Impact Claims	$432 ,000	$453 ,000	$885,000
Annual Impact Administration			$686 ,000
Total Impact			$1,571,000

Also noteworthy is that the impact on claims is nearly equally shared among population groups when the population of ESL is included in the proposed mandate.

The five-year impact results are displayed in Exhibit 2a (excluding ESL) and Exhibit 2b (including ESL). The appendix of this report provides a separate breakout of the costs for the ESL population.

In 2009, three scenarios resulted in estimated increased total spending (including both claims spending and administrative expenses). These results were then trended forward five years using annual trend rates of 5.6%, 6.6%, and 7.6%. The notification costs, however, were assumed to be incurred only in the first year of the mandate. It is assumed that in subsequent years, 2010 through 2013, that the notification language will have been incorporated into other materials that are already being distributed to affected members and therefore does not have an incremental cost.

Exhibit 2a: Estimated Cost Impact of S. 564 on Fully Insured Health Care Premiums (2009-2013) Excluding Persons for whom English Is a Second Language (ESL)

	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)	$44	$46	$49	$51	$54	$244
Annual Impact Administration (000s)	$245	$5	$5	$6	$6	$268
Annual Impact Total (000s)	$289	$51	$54	$57	$60	$512
Premium Impact (PMPM)	$0.01	$0.00	$0.00	$0.00	$0.00	
Middle Scenario						
Annual Impact Claims (000s)	$432	$461	$491	$524	$558	$2,465
Annual Impact Administration (000s)	$615	$67	$71	$76	$81	$911
Annual Impact Total (000s)	$1,047	$528	$562	$600	$639	$3,376
Premium Impact (PMPM)	$0.03	$0.02	$0.02	$0.02	$0.02	
High Scenario						
Annual Impact Claims (000s)	$1,703	$1,832	$1,971	$2,121	$2,283	$9,911
Annual Impact Administration (000s)	$1,614	$399	$430	$462	$497	$3,400
Annual Impact Total (000s)	$3,317	$2,231	$2,401	$2,583	$2,780	$13,311
Premium Impact (PMPM)	$0.10	$0.06	$0.07	$0.08	$0.08	

Exhibit 2b: Estimated Cost Impact of S. 564 on Fully Insured Health Care Premiums (2009-2013) Including Persons for whom English Is a Second Language (ESL)

	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)	$213	$225	$238	$251	$265	$1,191
Annual Impact Administration (000s)	$265	$25	$26	$28	$29	$373
Annual Impact Total (000s)	$478	$250	$264	$279	$294	$1,564
Premium Impact (PMPM)	$0.01	$0.01	$0.01	$0.01	$0.01	
Middle Scenario						
Annual Impact Claims (000s)	$885	$943	$1,006	$1,072	$1,143	$5,049
Annual Impact Administration (000s)	$686	$143	$151	$162	$172	$1,314
Annual Impact Total (000s)	$1,571	$1,086	$1,157	$1,234	$1,315	$6,363
Premium Impact (PMPM)	$0.05	$0.03	$0.03	$0.04	$0.04	
High Scenario						
Annual Impact Claims (000s)	$2,850	$3,067	$3,300	$3,551	$3,821	$16,588
Annual Impact Administration (000s)	$1,890	$695	$749	$806	$867	$5,008
Annual Impact Total (000s)	$4,740	$3,762	$4,049	$4,357	$4,688	$21,596
Premium Impact (PMPM)	$0.14	$0.11	$0.12	$0.13	$0.14	

Introduction

As currently written, S. 564 would require that commercial insurers cover the expense of a prescription drug voice synthesizer for those persons who are fully insured and legally blind or visually impaired. It is also the intention of the bill's sponsor, Senator Steven Baddour, to redraft the proposed mandate to require all health insurers, with the exception of Medicaid and Medicare, to cover the new benefit, as well as to make eligible persons for whom English is a second language (ESL). In this report, the Division takes all intended changes into account in the Division's review and evaluation of S. 564. The proposed mandate also includes a notification requirement that businesses, institutions, and organizations that regularly provide a service to a disabled person inform the disabled person of the availability of the voice synthesizer.

The purpose of S. 564 is to help eligible persons take their medications safely, effectively, and independently. According to a number of groups, including the American Foundation for the Blind and the Disability Policy Consortium, many people who are blind or visually impaired face difficulty in reading the label on their prescription medication.[1] The same might also be said of those for whom English is a second language.

The proposed mandate would address this problem for people who are blind, visually impaired, or speak English as their second language by mandating that insurers cover a prescription drug voice synthesizer that speaks the information on the label to the patient including how to take the medication, how many pills to take, and when. The doctor or pharmacist records the prescription information directly into the talking prescription device. The patient then presses a button to hear the instructions. Policyholders are responsible for returning the container to a pharmacist for refill under this proposed mandate.

This introductory section summarizes the scope of the current Massachusetts law and describes how private insurance coverage for prescribed voice synthesizers would change under the proposed mandate.

Summary of Current Coverage and Law

Health insurers in Massachusetts are not currently required to cover prescription drug voice synthesizers. Pharmacists in Massachusetts, however, are required to make an effort to make the prescription label accessible to those with visual impairment.[2] Under Massachusetts law, "upon the request of a person visually impaired [sic], directions on the label affixed by the pharmacist to a container of a prescription drug shall be typed in a print size allowing no more than ten characters per inch (M.G.L. c. 94C § 21)."[3]

There are no specific laws or regulations making prescription labels audible for those who request them.

Summary of Proposed Mandate

Should S. 564 be enacted, health insurers would be required to cover medically prescribed prescription drug voice synthesizers to a person who is legally blind or visually impaired. As written, the proposed mandate would apply to the fully insured population that is commercially insured.

According to key staff with the Legislature, the proposed mandate will undergo a redraft to include the changes listed below. These changes were taken into account in the Division's review and evaluation of S. 564.

- To apply the mandate coverage to Health Maintenance Organizations (HMOs) and Preferred Provider Organizations (PPOs), Blue Cross Blue Shield plans, and the GIC. Only Medicaid and Medicare would be excluded from the proposed mandate bill.
- To expand the eligible population to persons for whom English is a second language.

See Box 1 for an explanation of the size of the population eligible for prescription drug voice synthesizers under S. 564.

Box 1: Population Estimates

Blind and Visually Impaired. According to the American Foundation for the Blind (AFB), there are more than 20 million people in this country with significant vision loss, including those who are legally blind and visually impaired. In Massachusetts, there were approximately 37,000 persons who were legally blind in 2006. A corresponding number is not easily available for persons who are visually impaired. Generally speaking, the sources combine the numbers of persons who are blind and visually impaired. Using data from the National Eye Institute and reports from Prevent Blindness America, Oliver Wyman Actuarial Consulting, Inc. estimated that approximately 8,500 to 57,500 persons who are blind or visually impaired could benefit from this proposed mandate bill.

English as a second language. The Division's actuaries developed an estimate of the potential number of persons in Massachusetts for whom English is a second language, using a number of data sources, including the public school data and birth data published by the Massachusetts Department of Public Health. The Division's actuaries estimated that between 86,000 and 115,000 persons for whom English is a second language could benefit from this proposed mandate bill.

Background

In this section, the Division provides the following information: coverage of prescription drug voice synthesizers under private insurance based upon a survey of health plans in Massachusetts, the legal and regulatory issues around the topic of prescription labeling for the disabled, the market for prescription drug voice synthesizers, and a description of two on-going programs to provide access to audible prescription reading devices.

Survey to Health Insurers

The Division asked six health insurers in Massachusetts and the GIC to respond to a set of survey questions focused on their current coverage for prescription drug voice synthesizers. All six health insurers in Massachusetts and the GIC responded to the Division's survey. The responses were then blinded prior to interpreting the results of the survey responses, as summarized below:

- Coverage of prescription voice synthesizers is not common.
- Some plans indicated that they would consider coverage on a case-by-case basis.
- None of the plans indicated that they had received any requests for coverage.
- One plan responded that the device would be considered a convenience item.

In the survey, the Division also asked the health plans how they would cover this new benefit should the proposed mandate take effect. All of the health plans indicated that they would cover this benefit as part of the Durable Medical Equipment (DME) benefit.

The Market for Prescription Labels with Audible Capacity

Prescription drug voice synthesizers are intended to serve as a form of prescription labeling with audible capability for persons for whom reading a typical label is difficult, if not impossible. Today's market for audible prescription labels includes a range of products and a range of names, from talking pills to talking bottles to lengthier descriptive names such as audible prescription reading devices (APRDs). These products can range substantially in cost, which the vast majority of consumers must purchase as an out-of-pocket expense. See Box 2 for a sample listing of three types of devices ranging in cost to the consumer from about $10 to $250.[4]

Generally speaking, consumers do not have access to prescription drug voice synthesizers at their local pharmacy or pharmaceutical retail chain store. The same can be said for consumers in Massachusetts. That is largely because these types of products are not currently covered by health insurance, and therefore are an out-of-pocket expense to the user.

There are, however, many different companies such as Dynamic Living, Inc., Independent Living Aids, Inc., and MaxiAIDS that sell a range of prescription drug voice synthesizer products and sell adaptive technology to persons with disabilities. There are also several Massachusetts-based

Box 2: Sample of Products

There are several products on the market today that boast an easy-to-use and easy-to-record device for persons with visual impairments or difficulty reading, including persons for whom English is a second language. Three such audible prescription labeling services are listed and described below:

Tel-Rx Talking Prescription Recorder attaches to any size prescription bottle. It may be used to record the medicine and the dose, with a 20-second recording.

Talking Rx® is a portable, re-usable digital memo recorder that attaches to a device that tells you what is in the bottle and can tell you exactly how many pills to take, when, and for what. You can do it yourself, or ask your doctor or pharmacist to record the prescription information right into the recorder. The person records up to 60 seconds of instructions when dispensing the medication. New messages are recorded each time a new prescription is recorded.

ScripTalk™ Talking Prescription Reader is an audible prescription labeling system that requires software to print and program an auxiliary smart label, which stores prescription information, and is placed onto the prescription container by the pharmacist. To hear the prescription information, the patient uses a hand-held ScripTalk Reader that speaks out the label information using speech synthesis technology. The system uses synthetic speech technology to announce the prescription information, e.g. Patient, Medication, Instructions, Prescription Date, Refills Remaining, Prescriber, To Reorder This Prescription, Prescription Number, and Other Information. Pharmacies need to have decoding units and the individual needs to have the hand-held device.

companies such as A Division of Perkins Products, Resources for Rehabilitation, and e-pill that provide high-technology adaptive devices and products to help with independent living and sell prescription drug voice synthesizers too.

Federal and State Attention

As the population continues to age, coverage for prescription drug voice synthesizers seems to be getting more attention at both the federal and state levels.

The Medicare Prescription Drug Improvement and Modernization Act of 2003

Through the Medicare Prescription Drug Improvement and Modernization Act of 2003, the Congress called upon the Food and Drug Administration (FDA) to investigate solutions addressing the problem of inaccessible prescription drug labeling.[5] The report that was issued to Congress in May 2005 states that "all Americans, whether visually impaired or not, should have equal access to essential prescription drug information," yet it does not describe specific processes, regulatory changes, or other solutions ensuring access. Since the report was issued, efforts have focused on

bringing together expert panels to formulate questions for future research and the development and communication of stopgap solutions.

The Food and Drug Administration

In addition, the FDA, which is charged with regulating prescription drug information, introduced a new packaging insert format requirement to ensure that package inserts contain "clear and concise information" and "help ensure safe and optimal use of drugs." Advocacy groups for the blind and visually impaired, however, consider this step to be inadequate in making prescription labels accessible to persons who are blind and visually impaired.

The American Foundation for the Blind

More recently, the American Foundation for the Blind (AFB) has taken an active role at the national level to require that prescription drug labels be decipherable by blind or visually impaired patients. "Rx Label Enable," is the name of the campaign, and is focused on the ability of persons with vision loss to take medications safely, effectively, and independently. Their goal, in short, is to seek requirements that the FDA issue federal guidelines for pharmacists to follow in making prescription labels accessible to visually impaired persons. The AFB would like to see the federal guidelines modeled after the "Guidelines for Prescription Labeling and Consumer Medication Information (CMI) for Persons with Vision Loss," (March 2008). These guidelines, which represent the collaborative work of the American Society of Consultant Pharmacists (ASCP) Foundation and the AFB, provide both pharmacists and pharmacies with specific recommendations around making medication information accessible for patients with visual impairments.

State of Maryland

During the 2007 session of the Maryland General Assembly, Representative Hixson, et al. filed HB 135, An Act Relative to Prescription Drugs, Label with Audible Capacity.[7] Had the proposed mandate been enacted, licensed pharmacies would have been required to provide prescription labels that have audible capability upon request from a customer with a vision impairment that is documented. The bill also included provisions for a subtraction modification under the personal income tax for the purchase of devices that create or read prescription labels with audible capacity.

State of Illinois

During the 95th General Assembly, Senate Bill 0726, An Act Relative to Amending the Illinois Income Tax, was filed in 2007 by Senator Dale E. Risinger.[8] S. 0726 proposed to create a tax deduction for audible prescription labels for both consumer and pharmacy of up to $250 for the purchase of a device that reads prescription labels with audible capacity, and $1,000 for the purchase of a device that creates prescription labels with audible capacity. S. 0726 died early in 2009 and did not become law.

Two Case Studies

At present, there are two populations of blind and visually impaired persons who are eligible for prescription drug voice synthesizers free of charge. They are: eligible veterans who receive health care benefits from the Veterans Health Administration and members of Kaiser Permanente in northern and southern California. Coincidentally, both Kaiser Permanente and the Veterans Health Administration began their audible prescription labeling programs at about the same time. These two on-going programs are located in the pharmacies of the Veterans Health Administration and in the pharmacies of Kaiser Permanente in northern and southern California. Both programs involve the bulk purchasing of a single product for the entire system of care.

Case Study: Veterans Health Administration

According to documents issued by the Veterans Health Administration (VHA), the VHA finalized its plan to offer certain veterans access to prescription drug voice synthesizers in 2004 to achieve safe medication management and reduce the risk of medication errors.[9]

Under a directive issued by the VHA, all veterans would have access to audible prescription reading devices and equipment, with the requirement that ScripTalk™ be the sole audible prescription reading device that the Department of Veterans Affairs (VA) facilities (hospitals and clinics) could purchase for their patients. The VHA selected ScripTalk™ as the sole device to be used by the VA under a Blanket Purchase Agreement (BPA).

- Veterans are eligible for ScripTalk™ based on eligibility for VA health care, legal blindness or moderate visual impairment, demonstrated ability to self medicate, the determination by the appropriate health care professional that ScripTalk™ is the appropriate means to achieve independent medication management, and the ability to operate the device independently.
- The device is issued as a prosthetic device to veterans.
- Nationwide, it is estimated that more than 8,000 veterans use ScripTalk™.
- Massachusetts veterans have access to this benefit from either an in-state VA facility or from a regional rehabilitation center for the blind.

Case Study: Kaiser Permanente

Kaiser Permanente (KP) began offering prescription drug voice synthesizers to its members as a result of other changes that the HMO was making to comply with and support the requirements of the U.S. American Disabilities Act (ADA).[10] In 2006, KP began offering prescription drug reading devices in their Northern and Southern California locations to eligible members. Across the system, KP offers Talking Rx® to its members. The California-based HMO chose Talking Rx® because of the low cost of the unit and no up-front costs for its pharmacies. KP members pay nothing for the device. To date, KP has not conducted any medical efficacy studies or member satisfaction surveys around this service, but plans to continue offering this benefit to its members for the foreseeable future as an enhanced service.

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 S. 564. 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 S. 564 with support from Tony Dreyfus to research the medical efficacy of prescription drug voice synthesizers. 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 S. 564:

1. Conducted Interviews with Stakeholders.

The Division conducted interviews with stakeholders in the Commonwealth to ensure that the Division 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, and Maria Syrniotis and Jeevan Ramapriya from the office of the bill's sponsor, Senator Steven Baddour. The Division also communicated with officials representing ScripTalk™, Talking Rx®, Kaiser Permanente, the Massachusetts Commission for the Blind, and the American Foundation for the Blind.

2. Reviewed Literature.

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

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

The Division asked that six health plans complete and submit 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 the GIC.

4. Developed Baseline for Massachusetts.

The results of the survey to health plans showed that even those plans that either currently provide coverage or would consider coverage of voice synthesizers on a case-by-case basis have not received any such requests. Therefore, the Division's actuarial firm determined that the baseline costs covered today are negligible. The incremental impact of the proposed mandate on costs is identical to the total cost estimate under the mandate.

5. Applied Assumptions and Sensitivity Analysis to Methodology.

A range of likely cost outcomes was developed from the proposed mandate bill.

Approach for Determining Medical Efficacy

M.G.L. c. 3 § 38C (d) requires the Division to assess the medical efficacy of mandating the benefit. This assessment should include 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 S. 564, the Division conducted a literature search of the research in prescription drug voice synthesizers and medical errors.

Approach for Determining the Fiscal Impact of the Bill

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 range of potential costs due to the impact of the mandate's required benefits; and
- Estimate the impact of administrative expenses of the relevant insurers, including the administrative expense of the notification requirements.

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 two factors:

1. Utilization.

The range of utilization of prescription drug voice synthesizers was determined by: (1) developing an estimate of the percentage of members who are blind or visually impaired and for whom English is a second language; and (2) estimating the number of prescriptions per person for the two different population groups. This process was followed to establish demand for prescription drug reading devices. Persons who are blind and visually impaired were assumed to have a greater number of prescriptions per person than persons for whom English is a second language due to their higher average age.

2. Cost per Prescription Device.

The Division also developed a range of estimates for the cost per prescription devices.

For more detailed information on the methodological approach used to calculate the impact of S. 564 (including the approach to calculating administrative costs), refer to the appendix of this report.

Summary of Findings

Medical Efficacy

The Division found that the medical efficacy of prescription drug voice synthesizers has been so little examined that efficacy has been neither established nor contradicted. This gap in research stands in contrast to the large body of work devoted to the analysis of medication errors. If the use of these devices becomes more widespread, then the gap in research might eventually be filled. The Veterans Health Administration has developed criteria for buying "audible prescription reading devices" for veterans who might benefit from them.[11]

The Division examined the literature about drug errors by patients for some context for understanding the usefulness of the prescription voice synthesizers. The Division looked at a large group of 271 articles on drug errors and adverse drug events, but most addressed more long-standing concerns with inpatient medication errors.[12] Initial efforts to reduce adverse drug events focused on the hospital and on computer-based and team-based safeguards against prescription errors. But recently more attention has been paid to causes of outpatient drug errors, including errors by the patients themselves, and in specified subpopulations such as women,[13] mental health patients, and patients with low levels of literacy. [14, 15]

A small number of studies so far suggest that:

- Misunderstandings by patients about instructions on prescription bottles are probably an important cause of medication errors, especially for patients with low levels of literacy.[16]
- Overall medication errors are a significant cause of hospital admissions and errors by patients themselves are responsible for an important share of problems.[17]
- Very little progress has been made in understanding mental health medication errors outside the hospital.[18]

The use of prescription voice synthesizers can be seen as an experimental effort to address a newly understood element of the large problem with medication errors: outpatient error by the patients themselves. While the research described here can in no way establish the efficacy of voice synthesizers, research does suggest that errors by patients with prescription drugs cause significant harm and hospitalization. Voice synthesizers constitute a reasonable effort to reduce medication errors by patients, especially among the blind and visually impaired, for whom reading prescription labels is impossible or difficult. Their use might also be helpful among those with weak English or low levels of literacy.

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.*

Prescription drug voice synthesizers would be a new service for all health insurers. As such, the proposed coverage would increase the cost of 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 utilization of prescription drug voice synthesizers.

- Estimated impacts of S. 564 on Massachusetts health care premiums for fully insured products were calculated assuming that the 2009 premium per member is $4,800.
- Low, middle, and high estimates of utilization (among the blind and visually impaired population) and cost were developed. Cost estimates of the notification requirements were also developed, producing estimated impacts for the mandated benefits as currently drafted, excluding ESL, in 2009 on the premium of $.01, $.03, and $.10 PMPM.
- Low, middle, and high estimates of utilization among ESL and cost were developed and added to the cost of coverage for the blind and visually impaired, producing estimated impacts, including ESL, in 2009 on the premium of $.01, $.05, and $.14 PMPM.
- The PMPMs are multiplied by the affected population projection for the corresponding year to arrive at estimated annual impact dollars.

The five-year impact results are displayed in Exhibits 3a and 3b.

- Excluding ESL: In 2009, these scenarios would result in estimated increased total spending of $289,000, over $1.0 million, and $3.3 million, respectively.
- Including ESL: In 2009, these scenarios would result in estimated increased total spending of $478,000, approximately $1.6 million, and $4.7 million, respectively.

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.

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.*

   Should S. 564 become law, it is likely that many persons who are currently reliant upon other types of services from family members and the like will be able to take their medications more independently.

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.*

   Should S. 564 be enacted, pharmacy retail chains may begin to "stock" prescription drug reading devices. Under this circumstance, some combination of what consumers prefer and insurers will provide will determine the extent to which pharmacies will be required to purchase technology to fulfill requirements to the consumer.

Exhibit 3a: Estimated Cost Impact of S. 564 on Fully Insured Health Care Premiums (2009-2013) Excluding Persons for whom English Is a Second Language (ESL)

	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)	$44	$46	$49	$51	$54	$244
Annual Impact Administration (000s)	$245	$5	$5	$6	$6	$268
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Annual Impact Claims (000s)	$432	$461	$491	$524	$558	$2,465
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High Scenario						
Annual Impact Claims (000s)	$1,703	$1,832	$1,971	$2,121	$2,283	$9,911
Annual Impact Administration (000s)	$1,614	$399	$430	$462	$497	$3,400
Annual Impact Total (000s)	$3,317	$2,231	$2,401	$2,583	$2,780	$13,311
Premium Impact (PMPM)	$0.10	$0.06	$0.07	$0.08	$0.08	

Exhibit 3b: Estimated Cost Impact of S. 564 on Fully Insured Health Care Premiums (2009-2013) Including Persons for whom English Is a Second Language (ESL)

	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)	$213	$225	$238	$251	$265	$1,191
Annual Impact Administration (000s)	$265	$25	$26	$28	$29	$373
Annual Impact Total (000s)	$478	$250	$264	$279	$294	$1,564
Premium Impact (PMPM)	$0.01	$0.01	$0.01	$0.01	$0.01	
Middle Scenario						
Annual Impact Claims (000s)	$885	$943	$1,006	$1,072	$1,143	$5,049
Annual Impact Administration (000s)	$686	$143	$151	$162	$172	$1,314
Annual Impact Total (000s)	$1,571	$1,086	$1,157	$1,234	$1,315	$6,363
Premium Impact (PMPM)	$0.05	$0.03	$0.03	$0.04	$0.04	
High Scenario						
Annual Impact Claims (000s)	$2,850	$3,067	$3,300	$3,551	$3,821	$16,588
Annual Impact Administration (000s)	$1,890	$695	$749	$806	$867	$5,008
Annual Impact Total (000s)	$4,740	$3,762	$4,049	$4,357	$4,688	$21,596
Premium Impact (PMPM)	$0.14	$0.11	$0.12	$0.13	$0.14	

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.*

   S. 564 will likely lead to an increase in health plan administrative costs. Exhibits 3a and 3b above include administrative cost estimates. These administrative costs represent the cost of the notification provision of the proposed mandate bill, as well as the cost of administering this new service.

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

   It is possible that this mandate would produce some savings if it results in a reduction in medication errors, but there are no reliable studies upon which to base estimates of savings. In addition, savings cannot be estimated without knowing how many persons are buying these devices and paying out of pocket for them, or finding more effective ways to take their medication without causing an adverse drug event. The devices may also reduce the need to rely on family and other means but that doesn't produce financial savings to the health care system. In addition, this mandate would not affect the many large employers who are self-insured unless they choose to adopt this standard.

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 commercial insurance carriers, and is also intended under a redraft to apply to HMOs, and Blue Cross Blue Shield plans, and the GIC. The mandate will not affect Medicaid or Medicare.

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.*

   The cost to health care consumers of not mandating the benefit is the cost of paying out of pocket for prescription drug voice synthesizers, or finding other ways to take medications safely.

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 3a (excluding ESL persons) and 3b (including ESL persons) above.

Endnotes

[1] Disability Policy Consortium. www.dpcma.org/

[2] National Association of Chain Drug Stores, (June 21, 2004), "MMA Study on Making Prescription Pharmaceutical Information Accessible for Blind and Visually Impaired Individuals," [Docket No. 2004N-0221].

[3] American Foundation for the Blind.

[4] Sources include: Interview with En-Vision America. www.talkingrx.com; www.maxiaids.com; www.envisionamerica.com

[5] Medicare Modernization Act Section 107(f) – Study on Making Prescription Pharmaceutical Information Accessible for Blind and Visually Impaired Individuals; Establishment of Docket FDA Comment Number: EC22

[6] American Foundation for the Blind.

[7] Maryland General Assembly: mlis.state.md.us/

[8] Illinois General Assembly: www.ilga.gov/

[9] Department of Veterans Affairs, Veterans Health Administration, Washington DC. VHA-Directive 2004-06, March 10, 2004. Department of Veterans Affairs, Veterans Health Administration, Washington DC. Attachment A, Audible Prescription Reading Device (APRD) Frequently Asked Questions (FAQs), IL 10-2005-015, August 30, 2005. Department of Veterans Affairs, Veterans Health Administration, Washington DC. VHA Prosthetic Clinical Management Program (PCMP) Clinical Practice Recommendations for Audible Prescription Reading Devices. Department of Veterans Affairs, Veterans Health Administration, Washington DC. Office of Patient Care Services, Rehabilitation Strategic Health Care Group, Blind Rehabilitation Service, "Guidance for Blind Rehabilitation Service Staff," February 25, 2006.

[10] Kaiser Permanente, Telephone interview with Richard Yep, Pharmacist, February 2009.

[11] VHA Directive 2004--006, Audible Prescription Reading Devices. 2004. Department of Veterans Affairs, March 10. Accessed at www1.va.gov/vhapublications/ViewPublication.asp?pub_ID=301.

[12] Based on the Division's review of summaries of 271 articles on drug errors. Two provide examples of the inpatient focus: Benjamin DM. 2003. Reducing medication errors and increasing patient safety: case studies in clinical pharmacology.J Clin Pharmacol. Jul;43(7):768-83; and von Laue NC, Schwappach DL, Koeck CM.2003. The epidemiology of preventable adverse drug events: a review of the literature. Wien Klin Wochenschr. Jul 15;115(12):407-15.

[13] Grissinger MC, Kelly K. J. 2005. Reducing the risk of medication errors in women. Womens Health (Larchmt). Jan-Feb;14(1):61-7.

[14] Maidment ID, Lelliott P, Paton C. 2006. Medication errors in mental healthcare: a systematic review. Qual Saf Health Care. Dec;15(6):409-13.

[15] Davis TC, Wolf MS, Bass PF 3rd, Thompson JA, Tilson HH, Neuberger M, Parker RM. 2006. Literacy and misunderstanding prescription drug labels. Ann Intern Med. Dec 19;145(12):887-94. Epub 2006 Nov 29. Davis TC, Federman AD, Bass PF 3rd, Jackson RH, Middlebrooks M, Parker RM, Wolf MS. 2009. Improving patient understanding of prescription drug label instructions. J Gen Intern Med. Jan;24(1):57-62. Epub 2008 Nov 1.

[16] Davis and others 2009.

[17] For a general population in Spain, Otero Lopez MJ, Alonso Hernandez P, Maderuelo Fernandez JA, Ceruelo Bermejo J, Dominguez-Gil Hurle A, Sanchez Rodriguez A. 2006.[Prevalence and factors associated with preventable adverse drug events leading to hospital admission.]Farm Hosp. May-Jun;30(3):161-70. For a transplant population, Friedman AL, Geoghegan SR, Sowers NM, Kulkarni S, Formica RN Jr. 2007. Medication errors in the outpatient setting: classification and root cause analysis. Arch Surg. Mar;142(3):278-83; discussion 284.

[18] Maidment and others 2006.

Report Authors

Ellen Breslin Davidson, EBD Consulting Services, LLC

Tony Dreyfus, Independent Consultant

Dianna Welch, Oliver Wyman Actuarial Consulting, Inc.

Division of Health Care Finance and Policy
Executive Office of Health and Human Services

Contributing Staff: Audrey Morse, Kate Nordahl, and Ellen Sandler

Division of Health Care Finance and Policy
Two Boylston Street
Boston, Massachusetts 02116

Phone: (617) 988-3100
Fax: (617) 727-7662

Website: www.mass.gov/dhcfp

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Appendix: Actuarial Review of Massachusetts Senate Bill 564, An Act Relative to Coverage for Prescription Drug Voice Synthesizers

February 26, 2009

Actuarial Review of Massachusetts Senate Bill 564, An Act Relative to Prescription Drug Voice Synthesizers

Massachusetts Division of Health Care Finance and Policy

OLIVER WYMAN

Dianna K. Welch, FSA, MAAA

MARSH MERCER KROLL
GUY CARPENTER OLIVER WYMAN

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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 Senate Bill 564, An Act Relative to Prescription Drug Voice Synthesizers. The mandated benefit bill as currently written applies only to commercial insurers that are regulated by Chapter 175 of the Massachusetts General Laws. It would not apply to Blue Cross and Blue Shield Plans or Health Maintenance Organizations (HMOs) that are regulated under Chapter 176A, 176B, and 176G. It also would not apply to the Group Insurance Commission (GIC). However, the legislative intent was to apply the mandate broadly to all markets with the exception of Medicare and Medicaid plans. Therefore, we have applied our analysis to the entire fully-insured, commercial market and the GIC. This market includes fully-insured plans offered by commercial insurers, HMOs, and Blue Cross and Blue Shield Plans as well as the GIC. These are the plans that are included in our analysis, consistent with the intent of the bill and the requirements of M.G.L. Chapter 3, Section 38c. 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.

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. This report is not intended to be a legal interpretation of the bill as written.

Executive Summary

Senate Bill 564, An Act Relative to Prescription Drug Voice Synthesizers would require health insurance policies to cover prescription drug voice synthesizers for those who are blind or visually impaired. These are devices that provide audible information about prescription drugs, such as the name of the drug or the doctor's instructions for taking the drug. The bill as currently written (shown in Appendix A), would provide coverage only for the blind or visually impaired. Another population that has been identified as potentially benefiting from these devices is those whose first language is not English. The legislative intent is to first cover the blind and visually impaired. There is also interest in covering other groups. Therefore, we have separately estimated the impact of including coverage for those residents for whom English is a second language (ESL). The bill also contains notification requirements on the part of insurance carriers. Carriers are required to inform disabled persons of the availability of the voice synthesizer, though details on the requirements are not available.

We estimated the financial impact of the mandate on total and marginal costs. The total cost estimate reflects the full cost of the prescription drug voice synthesizers and the notification requirements that would be mandated by the bill. The marginal cost estimate reflects only the costs that are expected to be realized in addition to the costs of currently covered drug voice synthesizers in the affected population. For this study, we surveyed six carriers in Massachusetts to determine current coverage levels in the market. The list of participating carriers is in Appendix B. Most do not cover voice synthesizers. Those carriers that indicated they would consider coverage on a case-by-case basis said that they had not received any requests for coverage. Therefore, there is no current cost for providing drug voice synthesizers, the marginal cost is equal to the total cost, and we have not shown separate marginal cost estimates. Our estimates of the cost impacts of the mandated benefit on the fully-insured commercial market and the GIC for the five-year projection period from 2009 through 2013 are included in the tables below. Exhibit 1 shows the impact on a per member per month (PMPM) basis, while Exhibit 2 shows the dollar impact. We note that the impact of the notification requirements are highest in the first year of the mandate, because we have assumed that they are primarily one-time costs that would not be incurred after the first year.

We estimate the total premium cost of the mandated benefits, excluding coverage for ESL, for the period from 2009 through 2013 to be approximately $512,000 to $13,311,000. Including ESL, we estimate the total premium cost of the mandated benefits for the period from 2009 through 2013 to be approximately $1,564,000 to $21,596,000. The total premium cost estimates including ESL show an increase in premium of 0.00% to 0.03% premium in the first year.

Exhibit 1

PMPM Claims and Premium due to Senate Bill 564 Mandated Benefits

Total Cost of Coverage for Blind and Visually Impaired, Including Notification Requirements						
		2009	2010	2011	2012	2013
Claims	Low	$0.00	$0.00	$0.00	$0.00	$0.00
	Middle	$0.01	$0.01	$0.01	$0.02	$0.02
	High	$0.05	$0.05	$0.06	$0.06	$0.07
Premium (including notification)	Low	$0.01	$0.00	$0.00	$0.00	$0.00
	Middle	$0.03	$0.02	$0.02	$0.02	$0.02
	High	$0.10	$0.06	$0.07	$0.08	$0.08
Additional Cost of Coverage for ESL						
		2009	2010	2011	2012	2013
Claims	Low	$0.00	$0.01	$0.01	$0.01	$0.01
	Middle	$0.01	$0.01	$0.01	$0.02	$0.02
	High	$0.03	$0.04	$0.04	$0.04	$0.04
Premium	Low	$0.01	$0.01	$0.01	$0.01	$0.01
	Middle	$0.02	$0.02	$0.02	$0.02	$0.02
	High	$0.04	$0.04	$0.05	$0.05	$0.06
Grand Total Cost: Blind and Visually Impaired, Notification, and ESL Coverage Costs						
		2009	2010	2011	2012	2013
Claims	Low	$0.01	$0.01	$0.01	$0.01	$0.01
	Middle	$0.03	$0.03	$0.03	$0.03	$0.03
	High	$0.08	$0.09	$0.10	$0.10	$0.11
Premium (including notification)	Low	$0.01	$0.01	$0.01	$0.01	$0.01
	Middle	$0.05	$0.03	$0.03	$0.04	$0.04
	High	$0.14	$0.11	$0.12	$0.13	$0.14

Exhibit 2

Claims and Premium due to Senate Bill 564 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) - Blind or Visually Impaired and Notification Costs		2009	2010	2011	2012	2013	2009 - 2013
Claims	Low	$44	$46	$49	$51	$54	$244
	Middle	$432	$461	$491	$524	$558	$2,465
	High	$1,703	$1,832	$1,971	$2,121	$2,283	$9,911
Premium (including notification)	Low	$289	$51	$54	$57	$60	$512
	Middle	$1,047	$528	$562	$600	$639	$3,376
	High	$3,317	$2,231	$2,401	$2,583	$2,780	$13,311
Additional Cost for ESL (in $000's)		2009	2010	2011	2012	2013	2009 - 2013
Claims	Low	$169	$179	$189	$200	$211	$947
	Middle	$453	$483	$515	$549	$585	$2,584
	High	$1,147	$1,234	$1,328	$1,429	$1,538	$6,677
Premium	Low	$188	$199	$210	$222	$234	$1,053
	Middle	$524	$558	$595	$634	$676	$2,987
	High	$1,423	$1,532	$1,648	$1,773	$1,908	$8,285
Grand Total - Blind or Visually Impaired, Notification, and ESL Coverage Costs (in $000's)		2009	2010	2011	2012	2013	2009 - 2013
Claims	Low	$213	$225	$238	$251	$265	$1,191
	Middle	$885	$943	$1,006	$1,072	$1,143	$5,049
	High	$2,850	$3,067	$3,300	$3,551	$3,821	$16,588
Premium (including notification)	Low	$478	$250	$264	$279	$294	$1,564
	Middle	$1,571	$1,086	$1,157	$1,234	$1,315	$6,363
	High	$4,740	$3,762	$4,049	$4,357	$4,688	$21,596

2

Analysis

Benefits

The benefit that this bill is intended to mandate is prescription drug voice synthesizers. These devices provide audible information about prescription drugs, such as the name of the drug or instructions for taking the drug. The bill would also require notification so that people who could benefit from the devices are made aware of the availability of insurance coverage. Some of the people who may benefit from these devices are those who are blind or visually impaired, and those for whom English is a second language. While the current draft of the bill only provides coverage for the blind or visually impaired, the legislature is also interested in the estimated cost of providing the coverage to the ESL population.

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 Maria Syrniotis, Legislative Director for Senator Steven A. Baddour; Jeevan Ramapriya, Deputy Chief of Staff to Senator Steven A. Baddour; Lisa Pellegrino, Health Policy Analyst, Office of State Representative Ron Mariano, Chairman, Joint Committee on Financial Services; as well as policy analysts and consultants for the Division. Through this call we were able to gain an understanding of the intent of the bill. The intent is to provide coverage for voice synthesizers to those who are visually impaired, as well as potentially for individuals for whom English is a second language, with priority on the visually impaired population. The intent is to provide choice to the consumer in terms of the type of voice synthesizer used, and not to apply any limits to the number of synthesizers that would have to be covered.

Our analysis shows the estimated financial impact of the bill based on the legislative intent as described to us during the course of our conference call, and does not include a legal interpretation of the language of the bill. The process that we used involved

estimating the size of the affected population, the targeted population that will utilize the service, the cost of the voice synthesizers, the number of voice synthesizers that a member of the targeted population would use, and the carriers' administrative cost associated with the service. We also estimated the cost associated with the notification requirements of the bill. Additional detail on each of these steps is provided in the sections that follow.

Affected Population

As currently written, the population whose premiums would be affected by this mandate is the insured population covered by commercial insurers regulated by Chapter 175 of the Massachusetts General Laws. The intent of the bill was to apply the mandate more broadly. Therefore, the population whose premiums we have assumed will be affected by this mandate is the entire 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 2006[1]. 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 the increased enrollment in subsidized insurance through Commonwealth Care from the total insured residents. Commonwealth Care enrollment was 162,726 as of December 2008[5]. 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 294,000[6]. Therefore, the estimated size of the affected population is 2,868,000.

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[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.

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 Massachusetts population to grow by 10.4% from 2000 to 2030[7]. 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.

Targeted Population

The targeted population that would utilize the benefits mandated by Senate Bill 564 as currently written includes individuals who are blind or visually impaired. We conducted a search for published prevalence data to estimate the percentage of the affected population that is blind or visually impaired. We found several references that showed a wide range for the size of the visually impaired population. In addition, there does not seem to be a consensus on the definition of "visually impaired," and the mandate does not provide a definition either.

The Massachusetts Commission for the Blind estimates that as of 2006 there were 37,720 residents of Massachusetts who were blind[8]. With an estimated 2006 Massachusetts population of 6.4 million[9], this represents approximately 0.6% of the population. However, most blind individuals are over age 65 and are likely to be covered by Medicare or Medicaid, and not by the plans affected by this bill. Approximately 0.2% of the population is reported to be blind and under age 65. Nationwide data from the National Eye Institute, suggests that 0.1% of those age 40-59 and 0.3% of those age 60-69 are blind[10]. We estimate that this translates to approximately 0.1% of a commercially insured population.

The estimated size of the targeted population increases when it includes the visually impaired in addition to the blind. Based on the National Eye Institute data, we estimate that approximately 0.3% of the commercial population has either blindness or low vision. Prevent Blindness America reports that approximately 3.4 million American aged 40 or older are blind or visually impaired[11]. This represents approximately 2.6% of the

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

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

[8] Massachusetts Commission for the Blind, 2006 Report of the Register.

http://www.mass.gov/Eeohhs2/docs/mcb/report_register_2006.pdf

[9] U.S. Census Bureau.

http://quickfacts.census.gov/qfd/states/25000.html

[10] National Eye Institute.

http://www.nei.nih.gov/eyedata/pbd_tables.asp

[11] Prevent Blindness America, Facts About Vision Research.

http://www.preventblindness.org/resources/factsheets/ResearchFacts_MK26.PDF

population aged 40 or older. Young dependent children will not have a need for the devices. In addition, vision problems increase significantly with age and are likely to be more prevalent in Medicare and Medicaid populations than commercial populations. Therefore, we believe the higher estimates are not appropriate for this analysis. We have used a range of 0.3% to 2.0% for our estimate of the percentage of the affected population that would use this benefit due to vision impairment. Our middle estimate is the average of the high and low estimates. This range represents approximately 8,500 to 57,500 members of the affected population.

English as a Second Language

We also estimated the ESL population that could benefit from these devices. For this study we surveyed six carriers that provide coverage in Massachusetts. The list of the six participating carriers is in Appendix B. One of these participating carriers provided data on their members' primary language. Three percent of members positively indicated something other than English as their primary language. We reviewed language preferences within public school data collected by the Massachusetts Department of Health[12]. This report indicated 14.3% of public school students have a first language other than English, and 37.0% of those whose first language is not English have limited English proficiency. Therefore, 5.3% of public school students have limited English proficiency. We also reviewed language preferences from birth data collected by the Massachusetts Department of Public Health[13, 14, 15]. We estimate from this data that 11.3% of births were to mothers whose language preference was not English. Applying the public school percentage of ESL that have limited English proficiency of 37.0%, we estimate using the birth data that 4.2% of 2006 births were to mothers with limited English proficiency. We would expect that ESL may be more prevalent in Medicaid than the commercial population. Therefore, based on all of these estimates we used a range of 3% to 4% as our estimate of the portion of the commercially insured population that would potentially use the benefit, or approximately 86,000 to 115,000 people.

Cost of the Voice Synthesizers

The next step of our analysis was to estimate the cost of the voice synthesizers. There are several types of products available. One example of a relatively simple device is the Tel-Rx Talking Prescription Recorder (Tel-Rx). It is a small recorder that attaches to any size

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[12] Office of Multicultural Health, Massachusetts Department of Public Health, First Language is Not English (FLNE) and Limited English Proficiency (LEP) Students in Massachusetts Public Schools 2005-2006 School Year.

http://www.mass.gov/Eeohhs2/docs/dph/health_equity/05_06_flne_report.pdf

[13] Massachusetts Department of Public Health, Massachusetts Births 2006.

http://www.mass.gov/Eeohhs2/docs/dph/research_epi/birth_report_2006.pdf

[14] Massachusetts Department of Public Health, Asian Births in Massachusetts 1998-1999 Data Tables.

http://www.mass.gov/Eeohhs2/docs/dph/research_epi/birth_report_asian_1998_1999_tables.pdf

[15] Massachusetts Department of Public Health, Births to Black Mother in Massachusetts 1997-2000.

http://www.mass.gov/Eeohhs2/docs/dph/research_epi/birth_report_black_vol1.pdf

bottle with a rubber strap, and can be re-used. The American Foundation for the Blind lists it on their website with a manufacturer's suggested price of $12.95, while the distributor was selling it as of February 2009 for $14.95. Other types are specifically sized to attach to a prescription bottle, or are contained within the base of a specially made prescription bottle. One such device, the Talking Rx™, was selling as of February 2009 for $20 to fit a standard size bottle and $24 to fit a large bottle. A third type of voice synthesizer is the ScripTalk® Station. This technology requires the pharmacy to have special equipment to print labels that contain a microchip that contains the necessary information. The user must have a base at home that reads the information from the microchip when the label is placed over the base. The manufacturer indicated that the cost for the pharmacy is $500, the cost of the base is $225, and they were unsure of the cost per label. For some of these products, we were unable to locate a distributor in Massachusetts or online. However, if this mandate is passed we believe it is likely that the devices could become more widely available in Massachusetts. We used the $12.95 cost for our low estimate, $14.95 for our middle estimate, and $20 for our high estimate of the cost per voice synthesizer. This range does not explicitly include the cost of the ScripTalk® Station, however, we believe our range of results is reasonable. We expect utilization of ScripTalk® to be low during the projection period due to a lack of currently participating pharmacies. In addition, we believe carriers would likely encourage or require lower cost options to be used.

Number of Voice Synthesizers Per User

We believe this technology is more likely to be used by people taking multiple medications. Those who are only taking one medication may not need the audible instructions, particularly if it is a medication that they have already been taking and are already familiar with the instructions. Someone who takes multiple medications will need multiple devices in order to have instructions for each, except in the case of the ScripTalk® Station which would require a microchip label in each bottle but only one base.

Visual problems increase significantly with age. Utilization of prescription drugs also increases with age. According to Express Scripts®, the annual drug spending of someone age 50-64 is approximately twice that of someone age 35-49[16]. This could be partly due to the average cost of the drugs being higher, but utilization is also higher for older age people. As an example, the average annual spending on drugs to treat high cholesterol is $162.73 for someone age 45-64 and $16.65 for someone age 18-44. Therefore, we would expect the number of voice synthesizers per user to be higher for the visually impaired population which is an older population on average than the ESL population.

The number of synthesizers that are needed by a user will also depend on how many different drugs are being taken at the same time. For example, two different users could

[16] Express Scripts®, 2007 Drug Trend Report, April 2008.

http://www.express-scripts.com/industryresearch/industryreports/drugtrendreport/2007/dtrFinal.pdf

each fill six prescriptions during a given year. One might take the same drug for six consecutive months and only need one voice synthesizer that is re-used each month or decide that they don't need a voice synthesizer because they are familiar with how to take the drug already. Another user might take up to three different medications at a given time, for example, and need three voice synthesizers in order to be sure they know which drug is which and how to take each one. Because the voice synthesizers are re-usable, new devices will not be needed each year for every member who uses them.

We used proprietary data to estimate the number of voice synthesizers per user taking into consideration drug utilization patterns and the factors discussed above that influence the number of synthesizers likely needed. We believe that the average number of voice synthesizers per user in an average age population, such as the ESL population, will be approximately 0.3 per year. We estimate the range to be 0.15 to 0.50 voice synthesizers per user. Because the visually impaired population is older we assumed the number of synthesizers would be three times of the estimate for the average age population.

In addition, it is possible for the claims to fluctuate significantly in the first several years after a mandate is passed. Utilization could be relatively high in the first few years as members become aware of the benefit and any pent up demand is fulfilled. It may then decline to a steady state. Alternatively, it may take some time for individuals and their physicians to realize the benefits of voice synthesizers, even with notification from the carriers, which could decrease initial demand. There is no available data to suggest whether members are currently paying for these devices on their own or foregoing using them because of a lack of coverage. We have attempted to estimate the utilization once a steady state is reached, but it should be noted that the impact could be different in the early years.

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 Insurance[17] (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.

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

Notification Requirements

In addition to the expenses discussed in the section above, there are administrative costs related to the notification requirement of the mandate. The mandated benefit bill does not provide any details about the requirement. The legislative intent is to allow the Division of Insurance to determine how individuals should be notified. Therefore, the cost of this requirement is highly uncertain. We are assuming that the notification will need to be provided to all subscribers due to difficulties in identifying the target population, particularly as new members gain coverage. One possibility is that the Evidence of Coverage be modified to include a statement about the voice synthesizer coverage. Another possibility is a mailing to all affected subscribers. Another may be electronic notification when an email address is available, or posting on a company's intranet site in the case of group coverage. We attempted to incorporate these options into our range estimates. Our middle estimate assumes the cost is equal to first class postage to all subscribers. There would be additional costs associated with a mailing, such as printing costs that may include printing in Braille, but they could be offset by using bulk rate postage. For the low end, we assumed the cost would be half of the cost of postage. This is to reflect the possibility of using electronic means to deliver a portion of the notices. We used double the postage cost for the high estimate. This is to reflect the effort and cost of obtaining approval of new Evidence of Coverage materials and mailing notices to subscribers.

Marginal Costs

In the survey that we sent to the carriers (see Appendix B), we asked if they currently provide coverage for voice synthesizers. Coverage did not appear to be common. However, some of the carriers responded that they would consider coverage on a case-by-case basis. Those that indicated they would consider coverage on a case-by-case basis also said that they have not received any such requests. One carrier noted the difficulty in tracking results because there isn't a service code for voice synthesizers. Based on these responses we believe that any costs being covered today are negligible. Therefore, our marginal cost estimates are identical to the total cost estimates shown in the exhibits.

Cost Sharing

We have not explicitly adjusted our results to reflect member cost sharing. All of the plans surveyed indicated that they would consider this item to be Durable Medical Equipment (DME) unless the legislature required otherwise. Many plans in Massachusetts cover DME in full up to an annual dollar limit.

The legislative staff expressed some concern regarding the annual DME maximum and had a preference toward considering this as a prescription benefit. Whether it is considered DME or as part of an existing prescription, we do not expect the member cost sharing to be significant enough to change our estimated ranges.

We do note that if the voice synthesizer is considered as a standalone prescription, and not part of a prescription drug already being filled, application of a separate brand name

copay could result in the member paying for the entire cost of the voice synthesizer, and the mandate could produce very few insured claims. The primary cost under this scenario would be the cost of notification.

Results

The following exhibit shows the results of our analysis. PMPM amounts shown as $0.00 do not indicate that there is no cost, but rather only that the cost is less than $0.01 PMPM.

Exhibit 3

Development of Year 1 Total Cost and Marginal Cost Estimates of Senate Bill 564

Cost Estimates for Blind or Visually Impaired		Low	Middle	High
% of membership visually impaired	(A)	0.3%	1.1%	2.0%
Cost of voice synthesizers	(B)	$12.95	$14.95	$20.00
# synthesizers per user per year	(C)	0.45	0.90	1.50
2009 Claims cost PMPM	(D) = A*B*C/12	**$0.00**	**$0.01**	**$0.05**
Admin & contribution to surplus ratio	(E)	10.0%	13.5%	19.4%
Premium PMPM (with Admin)	(F) = D/(1-E)	**$0.00**	**$0.01**	**$0.06**
Cost Estimates for Notification Requirements				
# affected members	(G)	2,868,000	2,868,000	2,868,000
Members per subscriber	(H)	2.5	2.2	2.0
# subscribers	(I) = G/H	1,147,200	1,303,636	1,434,000
Cost of postage	(J) = I*0.42	$481,824	$547,527	$602,280
Multiple of postage cost assumed	(K)	0.5	1.0	2.0
Cost of notification	(L) = J*K	$240,912	$547,527	$1,204,560
PMPM cost of notification	(M) = L/G/12	**$0.01**	**$0.02**	**$0.04**
Total premium PMPM of mandated coverage as written	(N) = F+M	**$0.01**	**$0.03**	**$0.10**
Additional Cost if ESL Coverage is Added				
% of membership ESL	(O)	3.0%	3.5%	4.0%
Cost of voice synthesizers	(P) = B	$12.95	$14.95	$20.00
# synthesizers per user per year	(Q)	0.15	0.30	0.50
2009 Claims cost PMPM	(R) = O*P*Q/12	**$0.00**	**$0.01**	**$0.03**
Admin & contribution to surplus ratio	(S) = E	10.0%	13.5%	19.4%
Premium PMPM (with Admin)	(T) = R/(1-S)	**$0.01**	**$0.02**	**$0.04**
Total premium PMPM of mandated coverage including ESL	(U) = N+T	**$0.01**	**$0.05**	**$0.14**

The total premium cost estimates for the mandated coverage as written (excluding ESL) show an increase in premium of 0.00% to 0.02% in the first year based on an average

annual premium per member of roughly $4,800[18]. The total premium cost estimates including ESL show an increase in premium of 0.00% to 0.03% premium in the first year.

[18] 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%.

3

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. It is important to note that we have assumed that the cost of the notification requirements will be incurred primarily in the first year. We are assuming that in subsequent years the notification language will be incorporated into existing materials such as the Evidence of Coverage and will not result in material additional costs.

Exhibit 4

PMPM Claims and Premium due to Senate Bill 564 Mandated Benefits

Total Cost of Coverage for Blind and Visually Impaired, Including Notification Requirements						
		2009	2010	2011	2012	2013
Claims	Low	$0.00	$0.00	$0.00	$0.00	$0.00
	Middle	$0.01	$0.01	$0.01	$0.02	$0.02
	High	$0.05	$0.05	$0.06	$0.06	$0.07
Premium (including notification)	Low	$0.01	$0.00	$0.00	$0.00	$0.00
	Middle	$0.03	$0.02	$0.02	$0.02	$0.02
	High	$0.10	$0.06	$0.07	$0.08	$0.08
Additional Cost of Coverage for ESL						
		2009	2010	2011	2012	2013
Claims	Low	$0.00	$0.01	$0.01	$0.01	$0.01
	Middle	$0.01	$0.01	$0.01	$0.02	$0.02
	High	$0.03	$0.04	$0.04	$0.04	$0.04
Premium	Low	$0.01	$0.01	$0.01	$0.01	$0.01
	Middle	$0.02	$0.02	$0.02	$0.02	$0.02
	High	$0.04	$0.04	$0.05	$0.05	$0.06
Grand Total Cost: Blind and Visually Impaired, Notification, and ESL Coverage Costs						
		2009	2010	2011	2012	2013
Claims	Low	$0.01	$0.01	$0.01	$0.01	$0.01
	Middle	$0.03	$0.03	$0.03	$0.03	$0.03
	High	$0.08	$0.09	$0.10	$0.10	$0.11
Premium (including notification)	Low	$0.01	$0.01	$0.01	$0.01	$0.01
	Middle	$0.05	$0.03	$0.03	$0.04	$0.04
	High	$0.14	$0.11	$0.12	$0.13	$0.14

Exhibit 5

Claims and Premium due to Senate Bill 564 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) - Blind or Visually Impaired and Notification Costs		2009	2010	2011	2012	2013	2009 - 2013
Claims	Low	$44	$46	$49	$51	$54	$244
	Middle	$432	$461	$491	$524	$558	$2,465
	High	$1,703	$1,832	$1,971	$2,121	$2,283	$9,911
Premium (including notification)	Low	$289	$51	$54	$57	$60	$512
	Middle	$1,047	$528	$562	$600	$639	$3,376
	High	$3,317	$2,231	$2,401	$2,583	$2,780	$13,311
Additional Cost for ESL (in $000's)		2009	2010	2011	2012	2013	2009 - 2013
Claims	Low	$169	$179	$189	$200	$211	$947
	Middle	$453	$483	$515	$549	$585	$2,584
	High	$1,147	$1,234	$1,328	$1,429	$1,538	$6,677
Premium	Low	$188	$199	$210	$222	$234	$1,053
	Middle	$524	$558	$595	$634	$676	$2,987
	High	$1,423	$1,532	$1,648	$1,773	$1,908	$8,285
Grand Total - Blind or Visually Impaired, Notification, and ESL Coverage Costs (in $000's)		2009	2010	2011	2012	2013	2009 - 2013
Claims	Low	$213	$225	$238	$251	$265	$1,191
	Middle	$885	$943	$1,006	$1,072	$1,143	$5,049
	High	$2,850	$3,067	$3,300	$3,551	$3,821	$16,588
Premium (including notification)	Low	$478	$250	$264	$279	$294	$1,564
	Middle	$1,571	$1,086	$1,157	$1,234	$1,315	$6,363
	High	$4,740	$3,762	$4,049	$4,357	$4,688	$21,596

We trended claims and premiums forward at an annual rate of 6.6% for our middle estimate. Based on the trend study conducted by the Massachusetts Division of Insurance[19], we estimated the five-year average prescription drug utilization trend to be 3.5%. We would expect the utilization of voice synthesizers to increase with the utilization of prescription drugs. We assumed the cost of the voice synthesizers would increase at an annual rate of 3%, similar to the Consumer Price Index in recent years. The combined impact is a total annual trend of 6.6%. We trended claims and premiums forward at annual rates of 5.6% and 7.6% for our low 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

[19] 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.

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, excluding coverage for ESL, for the period 2009 through 2013 to be approximately $512,000 to $13,311,000. Including ESL, we estimate the total premium cost of the mandated benefits for the period 2009 through 2013 to be approximately $1,564,000 to $21,596,000.

Appendix A

SENATE, No. 564

AN ACT relative to prescription drug voice synthesizers

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 175 of the General Laws is hereby amended by inserting after section 47W the following section:-

Section 47X. Any blanket or general policy of insurance described in subdivision (A), (C) or (D) of section 110 which provides prescription drug insurance, which is delivered or issued for delivery or subsequently renewed by agreement between the insurer and the policyholder within or without the commonwealth shall provide coverage for the expense of a medially prescribed voice-synthesizer used in connection with a container that would provide audible information of a prescription for use by a person who is legally blind or visually impaired. The policy holder shall be responsible for returning the container to a pharmacist for refill.

SECTION 2. Notwithstanding any general or special law to the contrary, an individual, public or private institution, business or other organization that regularly and primarily

provides a service to a disabled person shall inform the disabled person of the availability of the voice synthesizer referred to in section 47X of chapter 175 of the General Laws.

Appendix B

List of Carriers That 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.

OLIVER WYMAN

411 East Wisconsin Avenue, Suite 1600
Milwaukee, WI 53202-4419
1 414 223 7989

Oliver Wyman Actuarial Consulting, Inc.