

**CENTER FOR HEALTH  
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**MANDATED BENEFIT REVIEW OF H.B. 2041  
SUBMITTED TO THE 189<sup>TH</sup> GENERAL COURT:  
AN ACT RECOGNIZING PHARMACISTS  
AS HEALTHCARE PROVIDERS**

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## **BENEFIT MANDATE OVERVIEW: H.B. 2041: AN ACT RECOGNIZING PHARMACISTS AS HEALTHCARE PROVIDERS**

### **HISTORY OF THE BILL**

The Joint Committee on Public Health referred House Bill (H.B.) 2041, “An Act recognizing pharmacists as healthcare providers,” sponsored by Representative Puppolo of Springfield in the 189th General Court, to the Center for Health Information and Analysis (CHIA) for review.<sup>1</sup> Massachusetts General Laws, Chapter 3, Section 38C requires CHIA to review and evaluate the potential fiscal impact of a mandated benefit bill referred to the agency by a legislative committee.

### **WHAT DOES THE BILL PROPOSE?**

The bill expands the scope of practice for registered pharmacists:

- It allows a pharmacist under a collaborative practice agreement (a CPA, an agreement between a pharmacist and a supervising physician defining the array of specific patient care functions the pharmacist may perform) to modify dosages of medicines prescribed by the patient’s physician for any diagnosis.<sup>2</sup>
- It allows a collaborating pharmacist in a retail setting to administer drugs and biological products ordered by the supervising physician.
- It allows pharmacists to dispense self-administered hormonal contraceptives and nicotine replacement products.
- It requires insurance carriers to cover drug therapy management services, and is assumed to require them to cover hormonal contraceptives and nicotine replacement products, when dispensed by a pharmacist under the provisions of this bill.

### **MEDICAL EFFICACY OF H.B. 2041**

In general, H.B. 2041 offers the potential to improve access to selected important health services through expanded use of pharmacists. Considerable evidence supports the effectiveness of several of the bill’s provisions in improving such access. For certain services, concerns have been voiced about potential added risk for patients when physicians play a smaller role in the delivery of drugs; available literature provides information about the magnitude of some of these risks. To the extent the bill’s provisions improve access with acceptable levels of increased risk, they would improve the health status of the relevant patient populations.

### **CURRENT COVERAGE**

In a survey of the largest Massachusetts insurance carriers conducted for this analysis, carriers reported that vaccine administration by pharmacists is generally covered, regardless of whether the pharmacist is practicing under a CPA, as are hormonal contraception and nicotine replacement products when lawfully prescribed. No carriers reported covering pharmacist CDTM or administration of drugs or biological products, other than vaccines, by CPA pharmacists.

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## **COST OF IMPLEMENTING THE BILL**

Requiring coverage for this benefit by fully-insured health plans would result in an average annual increase, over five years, to the typical member's monthly health insurance premiums of between \$0.43 (0.09 percent) and \$0.84 (0.17 percent) with a more likely increase in the range of \$0.59 (0.12 percent). The impact on premiums is driven by the estimates of the number of CPA pharmacists who will practice CDTM, the amount of CDTM each pharmacist will provide annually, and the effects of pharmacist-dispensed nicotine replacement and hormonal contraception on utilization of those products.

The Massachusetts Division of Insurance and the Commonwealth Health Insurance Connector Authority are responsible for determining any potential state liability associated with the proposed health benefit mandate under Section 1311 of the Affordable Care Act (ACA).

## **PLANS AFFECTED BY THE PROPOSED BENEFIT MANDATE**

As drafted, H.B. 2041 explicitly addresses plans, both fully- and self-insured, sponsored by the Group Insurance Commission (GIC) for the benefit of public employees. The review assumes the sponsors intend that the bill also apply to all commercial fully-insured health insurance plans offered pursuant to Massachusetts General Laws, including individual and group accident and sickness insurance policies, corporate group insurance policies, and HMO coverage. The proposed mandate would apply to members covered under the relevant plans, regardless of whether they reside within the Commonwealth or merely have their principal place of employment in the Commonwealth. The bill as drafted affects Medicaid/MassHealth; however, CHIA's analysis does not estimate the potential effect of the mandate on Medicaid expenditures.

## **PLANS NOT AFFECTED BY THE PROPOSED BENEFIT MANDATE**

Self-insured plans (i.e., where the employer or policyholder retains the risk for medical expenses and uses a third-party administrator or insurer only to provide administrative functions), except for those provided by the GIC, are not subject to state-level health benefit mandates. State mandates do not apply to Medicare and Medicare Advantage plans, the benefits of which are qualified by Medicare. State mandates also do not apply to federally-funded plans including TRICARE (covering military personnel and dependents), the Veterans Administration, and the Federal Employee's Health Benefit Plan.

## MEDICAL EFFICACY ASSESSMENT

Massachusetts House Bill (H.B.) 2041,<sup>3</sup> as submitted in the 189th General Court, amends the definition of “health care provider” in M.G.L. c. 111 §1 to include “registered pharmacist” and expands the scope of practice for registered pharmacists:

- It amends M.G.L. c. 112 §24B½—governing collaborative practice agreements (CPAs) for pharmacists—to allow a collaborating pharmacist in a retail business to modify dosages of medicines prescribed by the patient’s physician for any diagnosis.<sup>4</sup> Current law allows a collaborating pharmacist in a retail business to modify dosages only for specific diagnoses and related conditions (co-morbidities).
- It amends M.G.L. c. 112 §24B½ to allow a collaborating pharmacist in a retail setting to administer drugs and biological products ordered by the supervising physician.
- It amends M.G.L. c. 94C (governing controlled substances) to allow pharmacists to dispense self-administered hormonal contraceptives and nicotine replacement products in accordance with written, standardized procedures or protocols developed by an actively practicing physician.

H.B. 2041 requires the Group Insurance Commission (GIC) and MassHealth to cover “drug therapy management services by a registered pharmacist acting under a collaborative practice agreement” for patients diagnosed with “one or more chronic disease.” This review will make the following assumptions about the intended effect of the bill:

- The bill applies not only to plans sponsored by the GIC, but also to all commercial fully-insured plans.
- The bill does not limit a carrier’s obligation to cover a collaborating pharmacist’s services to those for a patient with a chronic disease, given that the bill also amends the CPA statute to remove existing language limiting that statute to drugs for certain diseases.
- The bill obligates carriers to cover self-administered hormonal contraceptives and nicotine replacement products when dispensed by a pharmacist under the provisions of this bill.

M.G.L. c. 3 §38C charges the Massachusetts Center for Health Information and Analysis (CHIA) with reviewing the medical efficacy of proposed mandated health insurance benefits. Medical efficacy reviews summarize current literature on the effectiveness and use of the mandated treatment or service, and describe the potential impact of a mandated benefit on the quality of patient care and the health status of the population.

In general, H.B. 2041 offers the potential to improve access to selected health services through expanded use of pharmacists, with risks to patients, if any, as discussed in the sections below.

## PHARMACISTS AS HEALTH CARE PROVIDERS WITH AN EXPANDED SCOPE OF SERVICES

H.B. 2041 amends the definition of “health care provider” in M.G.L. c. 111 §1 to include “registered pharmacist” and expands what a pharmacist can do under a collaborative practice agreement (CPA). A CPA is an agreement between a pharmacist (with training and experience relevant to the scope of the collaborative practice) and a supervising physician that defines the collaborative practice in which the pharmacist and the supervising physician propose to engage.<sup>5</sup> CPAs describe the array of specific patient care functions the pharmacist is permitted to perform;<sup>6</sup> these may include collaborative drug therapy management (CDTM).<sup>7</sup> CDTM is the initiating, monitoring, modifying, and discontinuing of a drug therapy by a pharmacist in accordance with a CPA.<sup>8</sup> Pharmacist responsibilities under CDTM may include “collecting and reviewing patient histories; obtaining and checking vital signs, including pulse, temperature, blood pressure and respiration; and under the supervision of, or in direct consultation with, a physician, ordering and evaluating the results of laboratory tests directly related to drug therapy when performed in accordance with approved protocols applicable to the practice setting and when the evaluation shall not include a diagnostic component.”<sup>9</sup>

A pharmacist’s participation in direct patient care, as a member of an interdisciplinary team, has been found to be effective for managing chronic diseases.<sup>10</sup> In a comprehensive, systematic review of pharmacist-provided direct care in settings with physicians and other providers, patients experienced significantly improved blood pressure (BP), hemoglobin A1c, and low density lipoprotein (LDL) cholesterol levels, along with fewer adverse drug events.<sup>11</sup> In this review, pharmacists provided a wide range of patient care services, including medication therapy management, disease state management, and education about medication.<sup>12</sup> In an update to previous studies and meta-analysis that found team-based care effective in improving BP outcomes,<sup>13,14,15</sup> a review of an additional 52 studies found that team-based care, especially when it included pharmacists and nurses, increased the proportion of people with controlled BP and reduced both systolic and diastolic measures.<sup>16</sup> Furthermore, the study found that larger improvements were found when team members (pharmacists and nurses) could prescribe medications independent of the primary care provider or with their approval. Improvements were also found when team members could provide patients with education and support, indicating applicability to all levels of medication management.<sup>17</sup> Numerous studies have shown that pharmacists can effectively manage medications for diabetes<sup>18,19,20,21</sup> and hypertension.<sup>22,23</sup>

H.B. 2041 expands the diagnoses for which collaborating pharmacists in a retail setting can modify drug dosages under a CPA. Under current law, collaborating pharmacists are permitted to modify dosages of medications prescribed only for specific chronic diagnoses and their related conditions (comorbidities). A review of available literature reveals that CDTM is being used for a growing number of conditions. It has been found effective for managing cancer and cancer treatment-related symptoms.<sup>24,25,26</sup> In an observational study at a health system’s cancer clinics, researchers found improved adherence to guidelines (such as performing laboratory tests) when erythropoiesis-stimulating agents<sup>i</sup> were prescribed through a CPA. CDTM has also been used for emergency contraception,<sup>27</sup> anticoagulant therapy management,<sup>28</sup> depression therapy management,<sup>29</sup> smoking cessation therapy,<sup>30</sup> flu/antiviral therapy,<sup>31</sup> pain management,<sup>32</sup> antibiotic treatment,<sup>33</sup> and management of buprenorphine for opioid dependence.<sup>34</sup>

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i Erythropoiesis-stimulating agents are used for the treatment of anemia.



## PHARMACISTS ADMINISTERING DRUGS AND BIOLOGICS

H.B. 2041 expands M.G.L. c. 112 §24B½ to allow a pharmacist with a CPA in a retail setting, to “administer drugs and biological products that have been ordered by the supervising physicians.” Current law permits the administration of only vaccines.

Pharmacists in 21 states are authorized to administer injectible medications, other than vaccines, with variable state specific requirements.<sup>35</sup> A survey of available literature did not reveal studies pertaining to outcomes for patients who receive injectible drugs or biological products administered by a pharmacist.

## PHARMACISTS DISPENSING HORMONAL CONTRACEPTIVES

Unintended pregnancy has been linked to numerous risks of problems for the women who become pregnant and their babies.<sup>36</sup> If a pregnancy is unplanned, a woman may not be in the state of health optimal for childbearing. The Institute of Medicine reports that women with unintended pregnancy are more likely to smoke or drink alcohol during pregnancy, have depression, experience domestic violence, and are less likely to obtain prenatal care or breastfeed.<sup>37</sup> Furthermore, short interpregnancy intervals have been associated with adverse neonatal outcomes, including low birth weight and prematurity, which increase the chances of health and developmental problems in children.<sup>38</sup> In the United States, 49 percent of all pregnancies are unintended;<sup>39</sup> for 2010, it was estimated that 47 percent (54,000) of all pregnancies in Massachusetts were unintended.<sup>40</sup>

Hormonal contraception comes in several forms, including oral pill, transdermal patch, vaginal ring, and injectible.<sup>41</sup> All forms have been found to be effective at preventing pregnancy,<sup>42,43</sup> and their use is safe among women who do not have contraindications for such use.<sup>44,45</sup> H.B. 2401 allows pharmacists to dispense self-administered hormonal contraception in accordance with written, standardized procedures or protocols developed by a physician. Current law permits a pharmacist to dispense only emergency contraception.<sup>46</sup>

National surveys have indicated that women are interested in obtaining hormonal contraception over the counter. In a 2011 survey of 2046 adult women, age 18 to 44 (not pregnant or seeking pregnancy, sexually active, not sterilized), 68 percent had attempted to get a prescription for hormonal contraception.<sup>47</sup> Of these, 29 percent reported difficulties obtaining a prescription or refills. Uninsured (versus privately insured) and Spanish-speaking (versus English-speaking) women were significantly more likely to report difficulties.<sup>48</sup> Reported difficulties included cost barriers or lack of insurance (14%), challenges obtaining an appointment or getting to a clinic (13%), the clinician requiring a clinic visit, exam, or Pap smear (13%), not having a regular doctor/clinic (10%), and difficulty accessing a pharmacy (4%).<sup>49</sup> In another national survey of 811 women age 18 to 44 at risk for unintended pregnancy, 68 percent said they would use direct pharmacy access to oral contraception, patch, ring, and/or emergency contraception. Of women who were not using contraception, 41 percent indicated they would begin using hormonal contraceptives, if they were available directly in pharmacies, and 66 percent of current users of hormonal contraceptive users indicated they were interested in direct pharmacy access.<sup>50</sup>

A recent survey of healthcare providers indicates the medical community has some reservations to providing hormonal contraceptives without a prescription. Almost three-quarters of 482 physicians and mid-level providers surveyed supported physician-initiated access.<sup>51</sup> Nearly 70 percent of the respondents were concerned that expanded access would result in decreased reproductive health preventive screening.<sup>52</sup> Another frequently-cited concern is that women with contraindications to hormonal contraceptives, who should not take them (e.g., women over 35 who smoke), will not be adequately identified.<sup>53</sup>

In a study of US resident women who obtained oral contraceptives from US family clinics and over the counter (OTC) from pharmacies in Mexico, the rate of screening was high for both groups (greater than 88 percent for Pap smear, pelvic exam, and clinical breast exam and greater than 71 percent for screening for sexually-transmitted infections).<sup>54</sup> Although screening rates were high for both groups, they were higher for the group using the clinic and highlighted the need to improve access to preventive screening for all low-income women.<sup>55</sup>

Evidence exists for the proposition that women can effectively self-screen for contraindications. In an anonymous cross-sectional study of 399 women ages 15 to 45 in the Seattle area, participants were asked to complete a 20 item self-administered questionnaire.<sup>56</sup> A matching medical evaluation questionnaire was completed concurrently by each participant's health care provider. Overall, a high proportion of the women in the study completed the medical questionnaire in concordance with their health care provider's same-day medical evaluation.<sup>57</sup> Agreement on critical medical eligibility criteria such as hypertension was well above 90 percent. For criteria on which a woman and her provider disagreed, women were more likely to identify the contraindications than were their providers.<sup>58</sup> Evidence of women's ability to self-screen was also found in a study of 1,270 women in Texas, although in this study, 6.6 percent thought they were eligible to use the relevant contraceptive, when, in fact, they were contraindicated, largely because of unrecognized hypertension.<sup>59</sup>

Based on the current research and analysis of risks versus benefits, the American College of Obstetricians and Gynecologists supports making oral contraceptives available over the counter and using self-screening for contraindications.<sup>60</sup>

## PHARMACISTS DISPENSING NICOTINE REPLACEMENT PRODUCTS

Since the first Surgeon General's report on smoking and health was released in 1964, more than 20 million Americans have died as a result of smoking.<sup>61</sup> Most were smokers with a history of smoking, but nearly 2.5 million were nonsmokers who died from heart disease or lung cancer caused by exposure to secondhand smoke.<sup>62</sup> In addition, 100,000 were babies who died of sudden infant death syndrome or complications from prematurity, low birth weight, or other conditions caused by parental smoking, particularly smoking by the mother.<sup>63</sup> Smoking impacts nearly every organ of the body, and there is no risk-free level of exposure to secondhand smoke. Smoking is the most common preventable cause of death in the United States.<sup>64</sup>

H.B. 2041 allows pharmacists to dispense nicotine replacement (NR) products in accordance with written, standardized procedures or protocols developed by an actively practicing physician. NR products are used to help people stop smoking.<sup>65</sup> They deliver a low dose of nicotine into the bloodstream, without exposing the user to many of the toxins found in smoke.<sup>66</sup> The goal of NR therapy is to reduce cravings and ease the symptoms of nicotine withdrawal.<sup>67</sup>

Some NR products may be obtained without a prescription, including nicotine patches, gum, and lozenges.<sup>68</sup> Nicotine patches are affixed to the skin, similar to an adhesive bandage, and nicotine is absorbed transdermally (through the skin). Nicotine gum is chewed to release the nicotine, and nicotine lozenges are dissolved in the mouth. These OTC products have been found to be pharmacologically efficacious and lead to modest rates of quitting similar to products requiring a prescription.<sup>69</sup>

Two types of nicotine replacement require a prescription, including the oral inhaler and a nasal spray. A nicotine inhaler uses a cartridge attached to a mouthpiece. Inhaling through the mouthpiece gives the

user a specific dose of nicotine, absorbed into the mouth and throat. Both the inhaler and the spray are available under the name of Nicotrol. Under H.B. 2041, a licensed pharmacist could dispense these without a prescription, when following physician-generated guidelines.

NR products all provide nicotine, and as such, they differ little in safety.<sup>70</sup> Many smokers are misinformed about the health risks of nicotine replacement (NR) therapy and that these misperceptions impede not only the adoption of NR therapy but also compliance during treatment.<sup>71</sup> Misperception of NR therapy safety is one barrier to effective use of NR therapy and probably reduces success in quitting.<sup>72</sup> NR products are considered safe and effective for tobacco cessation.<sup>73</sup>

NR products were made available over the counter in 1996. Some evidence of increased utilization of NR products in the United States has appeared after they were made available over the counter in the United States,<sup>74</sup> although the same increase in utilization was not realized in Massachusetts. A study found no increase in Massachusetts smokers' rates of using NR therapy, attempting to quit, or stopping smoking after NR therapy became available for OTC sale.<sup>75</sup>

## CONCLUSION

H.B. 2041 would expand the role of retail pharmacists to allow them to:

- Modify medication dosages under collaborative drug therapy management for any diagnosis. Research documents the effectiveness of pharmacist direct care and CDTM in a multi-disciplinary team for patients with chronic diagnoses, and use of CDTM continues to expand to other treatments and patient conditions. The body of literature documenting the efficacy of the expansion of CDTM to other areas is positive, and studies report increased access for patients and increased satisfaction of patients and providers.
- Administer drugs and biological products, in addition to vaccines. A review of available literature did not find studies measuring patient outcomes when pharmacists play such a role.
- Dispense hormonal contraceptives without a prescription, potentially improving access to drugs/ devices proven to help women avoid unwanted pregnancy. The prospect of allowing pharmacists to do so generates some concerns, such as the possibility it would lead to less frequent screening or to missed contraindications. However, available literature suggests women are effective at self-screening, and some evidence suggests the number of women who continue to get regular Pap tests and other screening would remain high.
- Dispense nicotine replacement products without a prescription. NR therapy is considered safe and effective for tobacco cessation. Several forms of NR are available over the counter already. H.B. 2041 would increase access to those products that presently require a prescription.

In general, H.B. 2041 offers the potential to improve access to selected important health services through expanded use of pharmacists, with risks to patients, if any, as discussed. To the extent the bill's provisions improve access with acceptable levels of increased risk, they would improve the health status of the relevant patient populations.

## ENDNOTES

- 1 The 189th General Court of the Commonwealth of Massachusetts, House Bill 3488, “An Act providing for certain health care coverage.” Accessed 29 February 2016: <https://malegislature.gov/Bills/189/House/H3488>.
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**APPENDIX**

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**Actuarial Assessment of House Bill 2041  
Submitted to the 189<sup>th</sup> General Court:  
“An act recognizing pharmacists  
as healthcare providers”**

Prepared for  
Commonwealth of Massachusetts  
Center for Health Information and Analysis

November 2016

Prepared by  
Compass Health Analytics, Inc.





# Actuarial Assessment of House Bill 2041 “An act recognizing pharmacists as healthcare providers”

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# Actuarial Assessment of House Bill 2041

## “An act recognizing pharmacists as healthcare providers”

### Executive Summary

Massachusetts House Bill (H.B.) 2041,<sup>1</sup> “An act recognizing pharmacists as healthcare providers,” as submitted in the 189<sup>th</sup> General Court, expands the scope of practice for registered pharmacists and requires carriers to cover services delivered under that expanded scope.

Massachusetts General Laws (M.G.L.) c.3 §38C charges the Massachusetts Center for Health Information and Analysis (CHIA) with reviewing the potential impact of proposed mandated health care insurance benefits on the premiums paid by businesses and consumers. CHIA has engaged Compass Health Analytics, Inc. (Compass) to provide an actuarial estimate of the effect enactment of the bill would have on the cost of health insurance in Massachusetts.

### Background

H.B. 2041, as submitted in the 189<sup>th</sup> General Court, amends the definition of “health care provider” in M.G.L. c. 111 §1 to include “registered pharmacist” and expands the scope of practice for registered pharmacists. Under current Massachusetts law, pharmacists may administer vaccines, and a pharmacist practicing under a collaborative practice agreement (CPA) in a retail business may modify dosages for specific diagnoses and related conditions.

A CPA is an agreement between a pharmacist (with training and experience relevant to the scope of the collaborative practice) and a supervising physician which defines the collaborative practice in which the pharmacist and physician propose to engage.<sup>2</sup> CPAs describe the array of specific patient care functions the pharmacist is permitted to perform;<sup>3</sup> these may include collaborative drug therapy management (CDTM).<sup>4</sup> CDTM is the initiating, monitoring, modifying, and discontinuing of a drug therapy by a pharmacist in accordance with a physician under a CPA.<sup>5</sup> To simplify the discussion of a pharmacist’s role in CDTM for purposes of this analysis, this document will label the pharmacist’s function as “prescribing” even though the scope of any given CPA might exclude initiating a prescription or other components of CDTM.

### Provisions of the bill

H.B. 2041 has the following provisions:

- A. Inserting “registered pharmacist” into the definition of “health care provider”
- B. Requiring insurance coverage for CDTM by pharmacists in any setting, and modifying the pharmacist practice statutes to allow a pharmacist in a retail setting under a CPA to modify medication dosages for patients with any diagnosis, rather than just for selected chronic diagnoses as allowed in the current version of the statute
- C. Allowing a pharmacist under a CPA in a retail setting to administer drugs and biologic products ordered by a supervising physician

D. Allowing a licensed pharmacist to dispense self-administered hormonal contraceptives in accordance with certain procedures or protocols

E. Allowing a licensed pharmacist to dispense nicotine replacement products in accordance with certain procedures or protocols

The bill is somewhat ambiguous about requiring insurance coverage of contraceptives and nicotine replacement products dispensed under the pharmacists' expanded scope, but based on responses from the bill's sponsors to questions about their intent, this analysis assumes H.B. 2041 requires insurance coverage for these contraceptives and nicotine replacement products.

As drafted, H.B. 2041 explicitly addresses plans, both fully- and self-insured, sponsored by the Group Insurance Commission (GIC) for the benefit of public employees. Based on responses from the bill's sponsors to questions about their intent, this review assumes the bill applies to all commercial fully-insured health insurance plans issued pursuant to Massachusetts General Laws.

### Current coverage

In a survey of the largest Massachusetts insurance carriers conducted for this analysis, carriers reported that vaccine administration by pharmacists is generally covered, regardless of the CPA status of the provider, as are hormonal contraception and nicotine replacement products when lawfully prescribed. In compliance with current Massachusetts law, no carriers cover administration of other drugs or biological products by CPA pharmacists.

Pharmacists are eligible to perform CDTM functions under current Massachusetts law<sup>6</sup> but not many appear to do so. Any healthcare practitioner allowed to prescribe in Massachusetts (including physicians) must have a Massachusetts Controlled Substance Registration (MCSR) before prescribing, which allows the number of MCSRs to serve as an indicator of the number of prescribers. Only 36 CPA pharmacists<sup>7</sup> (out of approximately 5,800 practicing pharmacists registered in the Commonwealth)<sup>8</sup> currently have an MCSR appropriate for CDTM. No carriers reported covering pharmacist CDTM, which may, in part, explain the small number of pharmacists with the appropriate MCSR.

### Analysis

For reasons outlined in the body of the report, only items B, D, and E above have a material incremental effect on health insurance premiums. Compass estimated the impact of H.B. 2041 by estimating the cost to fully-insured commercial health plans of:

- CDTM provided by CPA pharmacists
- Utilization of pharmacist-dispensed self-administered hormonal contraceptives
- Utilization of pharmacist-dispensed nicotine replacement products

Compass then aggregated these components and projected them forward over the next five years (2017 to 2021) for the fully-insured Massachusetts population under age 65, forecasting medical

inflation and adding carrier retention (administrative cost and profit) to arrive at an estimate of the bill's effect on premiums.

This analysis relies on estimates of the number of CPA pharmacists providing CDTM now and in the future, the amount of CDTM (hours) each CPA pharmacist will provide annually, and the effects of pharmacist-dispensed hormonal contraceptive products and nicotine replacement on utilization of those products. The uncertainties in these estimates are addressed by modeling a range of assumptions within reasonable judgment-based limits, and producing a range of estimates of the bill's incremental impact based on varying these parameters.

### Summary results

Table ES-1 summarizes the estimated effect of H.B. 2041 on premiums for fully-insured plans over five years. This analysis estimates the mandate, if enacted as drafted for the 189<sup>th</sup> General Court, would increase fully-insured premiums by as much as 0.17 percent on average over the next five years; a more likely increase is in the range of 0.12 percent, equivalent to an average annual expenditure of \$15 million over the period 2017 to 2021.

The impact on premiums is driven by the estimates of the number of CPA pharmacists practicing CDTM, the amount of CDTM each pharmacist will provide annually, and the effects of pharmacist-dispensed nicotine replacement and hormonal contraception on utilization of those products.

The costs associated with the CDTM, contraception, and nicotine replacement provisions should be evaluated in the context of potential cost offsets, beyond the scope of this study, related to better medication dosing and adherence and to reduced medical spending related to pregnancy and smoking.

The impact of the bill on any one individual, employer-group, or carrier may vary from the overall results depending on the current level of benefits each receives or provides and on how those benefits would change under the proposed mandate.

**Table ES-1:  
Summary Results**

|                               | <b>2017</b> | <b>2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>Weighted<br/>Average</b> | <b>5 Yr Total</b> |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-----------------------------|-------------------|
| Members (000s)                | 2,159       | 2,156       | 2,154       | 2,150       | 2,146       |                             |                   |
| Medical Expense Low (\$000s)  | \$6,438     | \$9,394     | \$9,792     | \$10,222    | \$10,696    | \$9,877                     | \$46,542          |
| Medical Expense Mid (\$000s)  | \$8,121     | \$12,171    | \$13,138    | \$14,349    | \$15,895    | \$13,512                    | \$63,673          |
| Medical Expense High (\$000s) | \$9,881     | \$15,499    | \$17,826    | \$21,182    | \$26,097    | \$19,202                    | \$90,485          |
| Premium Low (\$000s)          | \$7,232     | \$10,553    | \$11,000    | \$11,483    | \$12,016    | \$11,095                    | \$52,283          |
| Premium Mid (\$000s)          | \$9,123     | \$13,672    | \$14,759    | \$16,119    | \$17,856    | \$15,179                    | \$71,528          |
| Premium High (\$000s)         | \$11,100    | \$17,411    | \$20,025    | \$23,795    | \$29,316    | \$21,571                    | \$101,647         |
| PMPM Low                      | \$0.39      | \$0.41      | \$0.43      | \$0.45      | \$0.47      | \$0.43                      | \$0.43            |
| PMPM Mid                      | \$0.49      | \$0.53      | \$0.57      | \$0.62      | \$0.69      | \$0.59                      | \$0.59            |
| PMPM High                     | \$0.60      | \$0.67      | \$0.77      | \$0.92      | \$1.14      | \$0.84                      | \$0.84            |
| Estimated Monthly Premium     | \$463       | \$473       | \$483       | \$493       | \$503       | \$483                       | \$483             |
| Premium % Rise Low            | 0.085%      | 0.086%      | 0.088%      | 0.090%      | 0.093%      | 0.089%                      | 0.089%            |
| Premium % Rise Mid            | 0.107%      | 0.112%      | 0.118%      | 0.127%      | 0.138%      | 0.122%                      | 0.122%            |
| Premium % Rise High           | 0.130%      | 0.142%      | 0.161%      | 0.187%      | 0.226%      | 0.173%                      | 0.173%            |

## Executive Summary Endnotes

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<sup>1</sup> The 189<sup>th</sup> General Court of the Commonwealth of Massachusetts, House Bill 3488, “An Act providing for certain health care coverage.” Accessed 26 April 2016: <https://malegislature.gov/Bills/189/House/H3488>.

<sup>2</sup> M.G.L. c. 112 §24B½.

<sup>3</sup> National Center for Chronic Disease Prevention and Health Promotion (CDC). Collaborative Practice Agreements and Pharmacists’ Patient Care Services. October 2013. Accessed 17 May 2016: [http://www.cdc.gov/dhdsp/pubs/docs/Translational\\_Tools\\_Pharmacists.pdf](http://www.cdc.gov/dhdsp/pubs/docs/Translational_Tools_Pharmacists.pdf).

<sup>4</sup> *Op. Cit.* CDC: Collaborative Practice Agreements and Pharmacists’ Patient Care Services.

<sup>5</sup> *Op. Cit.* M.G.L. c. 112 §24B½.

<sup>6</sup> *Op. Cit.* M.G.L. c. 112 §24B½.

<sup>7</sup> Excel listing of pharmacists with an MCSR as of 22 June 2016 provided to Compass by Jonathan M. Mundy, RPh, MBA, Director, Office of Prescription Monitoring and Drug Control, The Commonwealth of Massachusetts, Department of Public Health, Bureau of Health Care Safety and Quality.

<sup>8</sup> Executive Office of Health and Human Services, Massachusetts Department of Public Health. Health Professions Data Series: Pharmacist 2012. Accessed 21 June 2016: <http://www.mass.gov/eohhs/docs/dph/quality/boards/pharmacy/2012-pharmacist-factsheet.pdf>.

# Actuarial Assessment of House Bill 2041

## “An act recognizing pharmacists as healthcare providers”

### 1. Introduction

Massachusetts House Bill (H.B.) 2041,<sup>1</sup> “An act recognizing pharmacists as healthcare providers,” as submitted in the 189<sup>th</sup> General Court, expands the services pharmacists may legally provide under a collaborative practice agreement (CPA) and requires carriers to cover collaborative drug therapy management (CDTM) services provided pursuant to a CPA. In addition, H.B. 2041 allows pharmacists to dispense self-administered hormonal contraceptives and nicotine replacement products without a prescription pursuant to written, standardized protocols developed by a physician. This analysis interprets the bill to require insurance carriers to cover prescription hormonal contraceptives and nicotine replacement products when dispensed by a pharmacist under the provisions of this bill.

Massachusetts General Laws (M.G.L.) c.3 §38C charges the Massachusetts Center for Health Information and Analysis (CHIA) with reviewing the potential impact of proposed mandated health care insurance benefits on the premiums paid by businesses and consumers. CHIA has engaged Compass Health Analytics, Inc. (Compass) to provide an actuarial estimate of the effect enactment of the bill would have on the cost of health insurance in Massachusetts.

Assessing the impact of the proposed mandate on premiums entails analyzing its incremental effect on spending by insurance plans. This in turn requires comparing spending under the provisions of the bill to spending under current statutes and current benefit plans for the relevant services.

Section 2 of this analysis outlines the provisions of the bill. Section 3 summarizes the methodology used for the estimate. Section 4 discusses important considerations in translating the bill’s language into estimates of its incremental impact on health care costs and steps through the calculations. Section 5 summarizes the results.

### 2. Interpretation of H.B. 2041

#### 2.1 Pharmacist services

The role of pharmacists increasingly involves working closely with other providers and engaging in direct contact with patients. By working collaboratively with physicians, the breadth of services pharmacists may offer has grown, within the bounds of legal constraints on their scope of practice.

H.B. 2041 requires carriers to cover CDTM<sup>2</sup> services provided by a pharmacist, in any setting, under a CPA.<sup>3</sup> A CPA is an agreement between a pharmacist (with training and experience relevant to the scope of the collaborative practice) and a supervising physician which defines the collaborative practice in which the pharmacist and physician engage. A CPA describes the array of specific patient care functions the pharmacist is permitted to perform;<sup>4</sup> these may include CDTM in support



of treatment for one or more diagnoses.<sup>5</sup> CDTM is the initiating, monitoring, modifying, and discontinuing of a drug therapy by a pharmacist in accordance with a CPA entered into with a physician.<sup>6</sup> To simplify the discussion of a pharmacist's role in CDTM for purposes of this analysis, this document will label the pharmacist's function as "prescribing" even though the scope of any given CPA might exclude initiating a prescription or other components of CDTM.

In addition to prescribing, pharmacist responsibilities under CDTM may include:

collecting and reviewing patient histories; obtaining and checking vital signs, including pulse, temperature, blood pressure and respiration; and under the supervision of, or in direct consultation with, a physician, ordering and evaluating the results of laboratory tests directly related to drug therapy when performed in accordance with approved protocols applicable to the practice setting and when the evaluation shall not include a diagnostic component.<sup>7</sup>

Pharmacists are eligible to perform CDTM functions under current Massachusetts law<sup>8</sup> but available data suggest that not many do so. Any healthcare practitioner legally allowed to prescribe in Massachusetts (including physicians) must have a prescriber's Massachusetts Controlled Substance Registration (MCSR) before prescribing to enable prescription monitoring, which allows the number of MCSRs to serve as an indicator of the number of prescribers. Only 36 CPA pharmacists<sup>9</sup> (out of approximately 5,800 practicing pharmacists registered in the Commonwealth)<sup>10</sup> currently have an MCSR appropriate for CDTM. No carriers reported covering pharmacist CDTM, which may in part explain the small number of pharmacists applying for the appropriate MCSR.

## 2.2 Provisions of the proposed mandate

As drafted, H.B. 2041 expands the scope of practice for registered pharmacists by:

- A. Inserting "registered pharmacist" into the definition of "health care provider"
- B. Requiring insurance coverage for CDTM by pharmacists in any setting, and modifying the pharmacist practice statutes to allow a pharmacist in a retail setting under a CPA to modify medication dosages for patients with any diagnosis, rather than just for selected chronic diagnoses allowed in the current version of the statute
- C. Allowing a pharmacist under a CPA in a retail setting to administer drugs and biologic products ordered by a supervising physician
- D. Allowing a licensed pharmacist to dispense self-administered hormonal contraceptives in accordance with certain procedures or protocols
- E. Allowing a licensed pharmacist to dispense nicotine replacement products in accordance with certain procedures or protocols

The following paragraphs outline the provisions in more detail.

### A. Pharmacist as Health Care Provider

The bill amends the definition of "health care provider" in the Public Health statutes, M.G.L. c. 111 §1, by adding "registered pharmacist."

## B. Insurance coverage for CDTM for Any Diagnosis

The bill amends M.G.L. c. 112 §24B½ – governing collaborative practice agreements (CPAs) for pharmacists – to allow a pharmacist in a retail setting under a CPA to modify dosages of medications for patients with any diagnosis, rather than with just selected chronic diagnoses as allowed in the current version of the statute. This may, for example, open up a role for CDTM in pain management pharmacy for cancer patients.

The bill also requires carriers to cover CDTM services performed by a pharmacist in any (not just retail) setting.<sup>i</sup> However, none of the carriers responding to a survey conducted for this analysis reimburse pharmacists for CDTM currently; therefore, the cost of all current pharmacist CDTM activity is treated as an incremental cost of the proposed mandate.

## C. Administration of Drugs and Biological Products

The bill amends M.G.L. c. 112 §24B½ to allow a collaborating pharmacist in a retail setting to administer drugs and biological products ordered by the supervising physician. Current Massachusetts law allows administration only of vaccines to adults 18 years of age and older.<sup>11</sup> Carriers do generally reimburse pharmacists for this service; therefore, pharmacist-administered vaccination costs are not treated as incremental costs of the proposed mandate. Regarding drugs and biological products (other than vaccines), pharmacist reimbursement rates are likely to be equal to or less than the reimbursement rates of the health care professionals currently administering drugs and biological products; therefore this provision would not add to the cost to the proposed mandate.

## D. Hormonal Contraceptives

The bill amends M.G.L. c. 94C (governing controlled substances) to allow pharmacists to dispense self-administered hormonal prescription contraceptives in accordance with written, standardized procedures or protocols developed by an actively practicing physician and filed at the pharmacist's place of practice and with the board of registration in pharmacy, and after the pharmacist completes a training program. H.B. 2041 as drafted is ambiguous as to whether its requirement for insurance coverage extends to dispensing these contraceptives in the manner described in the bill; however, this analysis assumes it requires carriers to cover such dispensing.

Massachusetts currently mandates coverage for prescription hormonal contraception.<sup>12</sup> This state law has been superseded by the contraception provisions of the federal Patient Protection and Affordable Care Act of 2010 (ACA)<sup>13</sup> which requires coverage of hormonal contraception with no member cost sharing. All carriers responding to a survey conducted for this analysis report covering hormonal contraception when prescribed by a licensed prescriber. Therefore, this analysis assumes the incremental cost of the contraception provision is limited to the cost of any increased utilization of these products owing to their availability in the pharmacy setting.

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<sup>i</sup> The bill as drafted requires carriers to cover CDTM for chronic diagnoses, ignoring the section of the bill that expands the diagnoses a retail pharmacist may address. In a response to questions about the intent of the bill, the sponsor indicated it should require coverage for services addressing the expanded diagnosis set.

## E. Nicotine Replacement Products

The bill amends M.G.L. c. 94C (governing controlled substances) to allow pharmacists to dispense nicotine replacement products in accordance with written, standardized procedures or protocols developed by an actively practicing physician and filed at the pharmacist's place of practice and with the board of registration in pharmacy, and after the pharmacist completes a training program. As with contraceptives, above, the bill as drafted is ambiguous regarding coverage for dispensing these products in the manner described in the bill; however, this analysis assumes it requires carriers to cover such dispensing.

The federal Patient Protection and Affordable Care Act of 2010 (ACA)<sup>14</sup> requires coverage of "tobacco cessation treatment" with no member cost-sharing. However, "there is no single definition of the scope of tobacco cessation"<sup>15,16</sup> and coverage varies by state.<sup>17</sup> Massachusetts does not mandate tobacco cessation coverage for private insurance plans,<sup>18</sup> although nicotine replacement is included in its benchmark plan.<sup>19</sup>

All carriers responding to a survey conducted for this analysis report covering prescription tobacco cessation products when prescribed by a licensed prescriber. Therefore, this analysis assumes the incremental cost of the nicotine replacement provision of H.B. 2041 is limited to the costs of any increased utilization of these products owing to their availability in the pharmacy setting.

## Summary

This analysis interprets the following provisions of H.B. 2041 to have implications for the cost of health insurance:

- Required coverage of CDTM provided by collaborating pharmacists
- Required coverage for pharmacist-dispensed hormonal contraceptives
- Required coverage for pharmacist-dispensed nicotine replacement products

## **2.3. Plans affected by the proposed mandate**

As drafted, H.B. 2041 explicitly addresses plans, both fully- and self-insured, sponsored by the Group Insurance Commission (GIC) for the benefit of public employees. Based on responses to questions to the sponsors about the scope of the bill, this review assumes the bill applies also to all commercial fully-insured health insurance plans issued pursuant to Massachusetts General Laws, including individual and group accident and sickness insurance policies, corporate group insurance policies, and HMO coverage. The proposed mandate would apply to members covered under the relevant plans, regardless of whether they reside within the Commonwealth or merely have their principal place of employment in the Commonwealth. The bill as drafted affects Medicaid/MassHealth; however, CHIA's analysis does not estimate the potential effect of the mandate on Medicaid expenditures.

Self-insured plans, except for those managed by the GIC, are not subject to state-level health insurance benefit mandates. State mandates do not apply to Medicare or Medicare Advantage

plans, the benefits of which are qualified by Medicare; this analysis excludes members of fully-insured commercial plans over 64 years of age and does not address any potential effect on Medicare supplement plans even to the extent they are regulated by state law. In addition, Massachusetts benefit plan mandates do not apply to Massachusetts residents covered by plans issued in other states.

## 3. Methodology

### 3.1. Overview

This analysis calculates incremental costs to the Massachusetts fully-insured commercial health insurance market for the CDTM, hormonal contraceptive, and nicotine replacement provisions of the bill described above. As noted above, the cost of the provision allowing CPA pharmacists to administer drugs and biological products other than vaccines is assumed to be zero.

### 3.2. Data sources

The primary data sources used in the analysis included:

- Information, including descriptions of current coverage, from responses to a survey of commercial health insurance carriers in Massachusetts
- Academic literature, published reports, and population data, cited as appropriate
- Information from Directors of Pharmacy managing the two largest CDTM practices in Massachusetts, the Director of the Office of Prescription Monitoring and Drug Control at the Massachusetts Department of Health, and the Executive Vice President at the Massachusetts Pharmacy Association
- Massachusetts insurance carrier claim data from the Massachusetts All Payer Claim Database (MA APCD) for calendar year 2014, for plans covering the majority of the under-65 fully-insured population subject to the mandate

### 3.3. Steps in the analysis

The analysis was executed in the following steps.

*Estimate the cost of expanded drug therapy management services by pharmacists under CPAs*

- Estimate the current and projected number of pharmacists performing CDTM under a CPA
- Estimate the average annual expected capacity of a typical CPA pharmacist to provide CDTM services

- Calculate the total available units (hours) of CDTM services in Massachusetts by multiplying the estimated number of pharmacists practicing under a CPA by the estimated annual CDTM capacity per pharmacist
- Adjust the total CDTM capacity associated with the fully-insured commercial population to estimate the number of CDTM units utilized under the proposed mandate
- Estimate the average cost per hour of pharmacist time
- Multiply the units by the unit cost to determine the total incremental cost of this provision of the proposed mandate

*Estimate incremental costs for pharmacist-dispensed self-administered hormonal contraception*

- Using available literature, estimate the percentage increase in use of hormonal contraception products if members can get them directly from a pharmacist
- Use the MA APCD to measure 2014 allowed and paid dollar amounts and number of users for self-administered hormonal contraception currently covered by Massachusetts payers for fully-insured commercial members from the three largest commercial carriers in the state
- Calculate per member per month (PMPM) claim expenses for these for self-administered hormonal contraceptives by dividing the total dollars paid for these products by total pharmacy member months for the three carriers from the MA APCD
- Multiply the measured PMPM claim expense by the utilization increase factor to estimate an incremental PMPM pharmacy claim expense

*Estimate incremental costs for pharmacist-dispensed nicotine replacement products*

- Using available literature, estimate the percentage increase in use of nicotine replacement products if members can get them directly from a pharmacist
- Use the MA APCD to calculate 2014 allowed and paid amounts and number of users for nicotine replacement products currently covered by Massachusetts payers for fully-insured commercial members from the three largest commercial carriers in the state
- Calculate claim expenses per member per month (PMPM) for these nicotine replacement products by dividing the total dollars paid for these products by total pharmacy member months for the three carriers from the MA APCD
- Multiply the measured PMPM claim expense by the utilization increase factor to estimate an incremental PMPM pharmacy claim expense

*Sum the impact on medical expense across all three provisions and calculate the impact of projected spending on insurance premiums*

- Adjust the pharmacy claim expense PMPM for contraception and nicotine replacement products to reflect the differences in pharmacy and medical insurance membership and project the PMPM expense over the next five years

- Estimate the fully-insured Massachusetts population under age 65, projected for the next five years (2017 to 2021) and project the incremental annual expense for contraception and nicotine replacement products
- Sum the incremental PMPM medical expense for all three provisions affecting the cost of this mandate
- Estimate the impact of carrier retention (administrative costs and profit) on premiums

Section 4 describes these steps in more detail and executes the calculations.

### 3.4. Limitations

While estimating costs using data in the MA APCD is relatively straightforward, this analysis also requires assumptions that hold more uncertainty, relying upon:

- Estimates of the hours per week CPA pharmacists spend performing CDTM and the portion of time they spend on patients not covered by commercial fully-insured products; these estimates are based in part upon input from the pharmacy directors of the two largest pharmacy practices currently providing CDTM in Massachusetts
- An estimate, from published studies, of how many services performed by pharmacists in newly-entered-into CPAs with CDTM will be incremental (new services meeting previously unmet demand) rather than substitutes for medical management services currently performed by physicians or other providers
- Assumptions about the degree of growth in CPAs that include CDTM that occurs as a result of the passage of H.B. 2041
- Published survey results, rather than carrier claim experience, to estimate the incremental utilization volume for pharmacist-dispensed nicotine replacement and hormonal contraceptive products

These uncertainties are addressed by modeling a range of assumptions within reasonable judgment-based limits, and producing a range of estimates of incremental cost by varying these parameters. The more detailed step-by-step description of the estimation process outlined in the next sections addresses these uncertainties further.

## 4. Analysis

This section describes the calculations outlined in the previous section in more detail. The analysis includes development of a best estimate “middle-cost” scenario, as well as a low-cost scenario using assumptions that produced a lower estimate, and a high-cost scenario using more conservative assumptions that produced a higher estimated impact. Section 4.1 estimates the costs of reimbursing CDTM currently being provided by pharmacists in Massachusetts, followed by Section 4.2 estimating costs for CDTM practiced under new CPAs incentivized by the provisions of H.B. 2041 in the future. The total incremental costs of CDTM reimbursement are presented in 4.3.

Section 4.4 describes the estimate for costs related to dispensing contraceptives and Section 4.5 the costs related to dispensing nicotine replacement products.

#### 4.1. Cost of CDTM performed by CPA pharmacists in current practice

As noted above, none of the carriers surveyed currently reimburse pharmacists for CDTM; therefore, all current pharmacist CDTM capacity is treated as an incremental cost of the proposed mandate. Estimating the annual incremental cost to carriers of CDTM performed by current CPA pharmacists requires projecting the number of active CPA pharmacists in Massachusetts providing CDTM, the average annual units of CDTM capacity per CPA pharmacist, and the average fee per service. Multiplying these components together results in the estimated annual incremental cost to carriers of this provision of H.B. 2041.

##### The number of practicing CPA pharmacists providing CDTM

Data provided to Compass by the Massachusetts Executive Office of Health and Human Service's Drug Control Program indicate that 36 Massachusetts CPA pharmacists currently have prescriptive authority under a Massachusetts Controlled Substances Registration.<sup>20</sup> Because modifying drug regimens and dosages is an integral part of the CDTM service, prescriptive authority is a necessary prerequisite for providing the service. Therefore, Compass estimates 36 pharmacists performing CDTM in the base year.

##### Annual CDTM capacity for individuals under 65

Managing pharmacists at the two largest CDTM practices in Massachusetts provided estimates to Compass of the percent of staff time spent providing CDTM. The estimates, provided separately, were approximately 71 percent and approximately 74 percent. Further, both practice leaders indicated that on average (across practice areas such as pain management, anti-coagulation management, etc.) about 25 percent of their CDTM patients are under 65. Academic pharmacists practicing CDTM also provided input indicating that they spend between 25 and 50 percent of their time providing CDTM and between 50 and 85 percent (similar to the states membership distribution) of their patients are under age 65. The amount of time spent and age distributions on the small remaining number of pharmacists were estimated based upon their practice type. Calculating a weighted FTE average taking into account the portion of time spent on under-65 patients results in an estimate of time spent by CDTM-qualified pharmacists providing CDTM to individuals under 65 of approximately 23.7 percent. Applying this estimate to the 36 total CDTM-qualified Massachusetts pharmacists results in an estimate of 8.5 full-time-equivalents dedicated to providing CDTM to individuals under 65.

Based upon input from the pharmacists, Compass estimated that pharmacists performing CDTM full time would have a range of 25 to 35 hours per week available for CDTM services, depending on the amount of administrative and other duties required of them. Compass further assumed the average pharmacist would practice for 45 weeks per year (assuming time off due to training and paid time off). Multiplying the 8.5 full-time-equivalent CDTM pharmacists by the estimated range of available



hours per week by 45 weeks per year results in a range of annual available CDTM hours for individuals under 65 of 9,588 to 13,423. Table 1 summarizes this calculation.

**Table 1:  
Estimated Annual CDTM Hours Available for Individuals under 65**

|               | FTE CDTM Pharmacists | CDTM Hours per Pharmacist per Week | Available Weeks per Year | CDTM Hours per Year |
|---------------|----------------------|------------------------------------|--------------------------|---------------------|
| Low Scenario  | 8.5                  | 25                                 | 45                       | 9,588               |
| Mid Scenario  | 8.5                  | 30                                 | 45                       | 11,505              |
| High Scenario | 8.5                  | 35                                 | 45                       | 13,423              |

Annual CDTM hours provided to commercial fully-insured individuals over five years

Estimating the number of CDTM hours provided for commercial fully-insured members first entails locating the commercial insurance percentage (fully- and self-insured) reported for March 31, 2016 in CHIA’s July 2016 enrollment trends report. This percentage is applicable for about 48 percent of the CDTM pharmacists who are facility-based, and includes the over-65 population, and amounts to 63 percent.<sup>21</sup> Since an adjustment was already made to remove the pharmacists’ time spent on the over-65 population, Compass used the enrollment distribution to estimate that 82 percent of the under-65 population was commercially insured.

The other 52 percent of the CDTM pharmacists serve patients in community health centers where the payer mix is more focused on low income populations. In community health centers only about 20.7 percent of the under-65 patients are commercially insured.<sup>22</sup> A weighted average of the two provider types (facility-based and community health centers) was calculated resulting in an estimate that 50.3 percent of the patients served had commercial insurance. This percentage was multiplied by the projected fully-insured proportion of commercial insurance over the next five years from the membership model described in the attached appendix to calculate the proportion of commercial fully-insured members. Table 2 summarizes this calculation.

**Table 2:  
Calculation of the Percent of CDTM Hours Provided to Commercial Fully-Insured Members over the period 2017 to 2021**

|  | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|------|------|------|------|------|
| Commercially-Insured Percent of Individuals Under 65 | 50%  | 50%  | 50%  | 50%  | 50%  |
| X FI Percentage of Commercially-Insured              | 45%  | 44%  | 44%  | 43%  | 43%  |
| = CDTM Hours Available to FI Members                 | 22%  | 22%  | 22%  | 22%  | 21%  |

Applying the percentages in Table 2 to the annual hour estimates from Table 1 results in the estimated commercial fully-insured utilization of CDTM services summarized in Table 3.



**Table 3:  
CDTM Hours Available to Commercial Fully-Insured Members  
from Current CPA Pharmacists**

|               | 2017  | 2018  | 2019  | 2020  | 2021  |
|---------------|-------|-------|-------|-------|-------|
| Low Scenario  | 2,150 | 2,126 | 2,102 | 2,078 | 2,054 |
| Mid Scenario  | 2,580 | 2,551 | 2,522 | 2,493 | 2,464 |
| High Scenario | 3,010 | 2,976 | 2,943 | 2,909 | 2,875 |

Estimate average cost per service projected over five years

The MA APCD fully-insured commercial data for 2014 included a small number of claims paid for medication therapy management service codes specific to pharmacists.<sup>ii</sup> The APCD had significantly more claims for medication therapy management for physicians and physician assistants with hourly rates of \$497 and \$217 respectively. Salary.com estimates average annual salaries for physicians, pharmacists, and physician’s assistants in Boston are \$207,000, \$135,000 and \$107,000 respectively.<sup>23</sup> A high-end unit cost for the pharmacists was calculated by using the salary ratio from a pharmacist to a physician assistant and applying it to corresponding APCD unit cost. The low estimate is assumed to be the physician assistant hourly rate. An average was used for the mid scenario. The estimated 2014 hourly cost for pharmacists are shown in Table 4. This hourly cost was projected forward to the period 2017 to 2021 based on estimates of inflation for physician and clinical services.<sup>24</sup> The resulting unit cost estimates are also shown in Table 4.

**Table 4:  
Estimated Cost per Hour of Pharmacist CDTM, 2017 to 2021**

|               | 2014     | 2017     | 2018     | 2019     | 2020     | 2021     |
|---------------|----------|----------|----------|----------|----------|----------|
| Low Scenario  | \$216.97 | \$251.88 | \$263.97 | \$278.22 | \$293.53 | \$309.96 |
| Mid Scenario  | \$245.36 | \$284.84 | \$298.51 | \$314.63 | \$331.93 | \$350.52 |
| High Scenario | \$273.75 | \$317.79 | \$333.05 | \$351.03 | \$370.34 | \$391.08 |

Annual incremental cost of currently provided CDTM due to the mandate over five years

Multiplying the estimated hours of CDTM available to fully-insured commercial members from Table 3 by the estimated hourly costs in Table 4 yields the total estimated incremental medical expense for CDTM services performed by the estimated 36 pharmacists currently practicing CDTM in Massachusetts. These estimates appear in Table 5.

<sup>ii</sup> CPT codes 99605, 99606, and 99607.

**Table 5:  
Estimated Marginal Medical Expense of CDTM Services  
Performed by CPA Pharmacists in Current Practice**

|               | 2017      | 2018      | 2019        | 2020        | 2021        |
|---------------|-----------|-----------|-------------|-------------|-------------|
| Low Scenario  | \$541,547 | \$561,179 | \$584,776   | \$609,864   | \$636,545   |
| Mid Scenario  | \$734,884 | \$761,525 | \$793,547   | \$827,591   | \$863,798   |
| High Scenario | \$956,564 | \$991,241 | \$1,032,922 | \$1,077,236 | \$1,124,365 |

#### 4.2. Cost of CDTM performed by pharmacists with newly-signed CDTM CPAs

Section 4.1 estimated the impact of requiring coverage for CDTM already practiced in Massachusetts. The availability of coverage will also provide a stimulus for expansion in the use of CDTM. This stimulus is, however, limited in that practicing CDTM involves treating patients covered under all of a particular physician’s payers, but the requirement for reimbursement in H.B. 2041 is limited to patients covered by fully-insured commercial policies. Furthermore, entering into a CPA for CDTM requires a high degree of trust between the physician and the pharmacist. In an interview with Compass staff, an officer of the Massachusetts Pharmacy Association stated he expected to see slow growth in the number of CPA pharmacists in Massachusetts over the next several years even if the proposed mandate passes. To calculate the estimated incremental expense of CDTM services performed by pharmacists under CPAs to be executed in the future as a result of passage of H.B. 2041, Compass estimated the projected growth in the number of pharmacists providing CDTM and the proportion of services provided by the new providers that will meet unmet demand (services that do not replace medication management services already available from other provider types) in the fully-insured commercial market. The annual hours of CDTM per practicing CPA pharmacist and the hourly costs for CDTM estimated in Section 4.1 can then be applied to these estimates to calculate the incremental cost of CDTM services provided by new CPA pharmacists.

##### Estimated additional CPA pharmacists with prescriptive authority

If H. B. 2041 is enacted, the availability of payment will likely increase the number of pharmacists practicing CDTM; given the potential for additional revenue pharmacies will have an incentive to engage in CDTM services. Growth in the number of pharmacists could occur in institutional settings but will more likely occur in community health centers and in community retail pharmacies that would hire pharmacists to practice CDTM. Predicting the rate of growth is difficult; however it is likely that the initial growth will be small and will increase over time because of the need to train and hire pharmacists for the CDTM role, and because it will take time for pharmacists and physicians to develop relationships and supporting CPAs. To estimate the potential, this analysis started with a survey of pharmacists conducted by the Massachusetts Department of Public Health,<sup>25</sup> which indicated that 4.8 percent of pharmacists currently participate in a CPA. According to the expert pharmacists with whom Compass consulted, physicians must have a high level of trust in the pharmacists to enter into a CPA, and especially one involving CDTM responsibility. This analysis assumes in the mid scenario that over the five-year projection period the number of

pharmacists in a CDTM role would increase to 2.5 percent of the total number of Massachusetts pharmacists. It is expected that initially the growth rate would be higher and would stabilize over time, and the 2.5 percent assumption implies a 32 percent average annual growth rate in the number of CDTM pharmacists over the projection period, starting from the very small current base of 36 pharmacists.

To account for the uncertainty around this estimate, Compass used a low-cost scenario assuming 1.4 percent of the state’s pharmacists would perform CDTM, implying an average annual growth rate of 18 percent per year, and a high-cost scenario assuming 4.1 percent of the state’s pharmacists in a CDTM role, implying an average growth rate of 46 percent per year. The growth rates discussed above were applied to the 36 current pharmacists in CPAs that allow CDTM from Section 4.1. The current number of providers was then subtracted from the total projected providers to determine the number of new providers. This assumes all growth in CDTM agreements occurs as a result of the bill’s passage; while this is unlikely to be the case, growth without the bill’s passage is likely to be very low, making the effect of this simplifying assumption not material. Table 6 shows the resulting total projected population of pharmacists qualified to practice CDTM and projected new qualified pharmacists.

**Table 6:  
Projected Total Pharmacists Qualified to Practice CDTM  
and Projected New Pharmacists Qualified to Practice CDTM, 2017 to 2021**

|                               | 2017      | 2018      | 2019      | 2020      | 2021      |
|-------------------------------|-----------|-----------|-----------|-----------|-----------|
| Low Scenario Total Providers  | 47        | 54        | 62        | 71        | 82        |
| Mid Scenario Total Providers  | 50        | 66        | 85        | 111       | 144       |
| High Scenario Total Providers | 54        | 78        | 114       | 165       | 239       |
| <i>Current Providers</i>      | <i>36</i> | <i>36</i> | <i>36</i> | <i>36</i> | <i>36</i> |
| Low Scenario New Providers    | 11        | 18        | 26        | 35        | 46        |
| Mid Scenario New Providers    | 14        | 30        | 49        | 75        | 108       |
| High Scenario New Providers   | 18        | 42        | 78        | 129       | 203       |

Hours of CDTM services by new providers available to fully-insured commercial members

The analysis assumes 75 percent of the new pharmacists would belong to community health centers and community-based pharmacies and would enter into agreements with community-based practices. The Chair of the Department of Pharmacy practice at one of the four Massachusetts pharmacy schools provided an estimate to Compass of the percent of staff time spent by CDTM-qualified pharmacists providing CDTM to individuals under 65 of approximately 60 percent. This aligns with the proportion of diabetic adults that are under age 65 in Massachusetts, which is about 59 percent.<sup>26</sup> Diabetes is among the chronic conditions often requiring CDTM services. In an interview, another academic pharmacist indicated a likely CDTM growth area will be anticoagulation, and in this case only about 15 percent of the patients are under 65. Given that the community-based practices currently operating with a CDTM CPA have about 39 percent of their patients under the age of 65, and considering the other areas of potential growth, this analysis assumes 50 percent of the patients in these community settings will be under 65.

The remaining 25 percent of pharmacists are expected to be employed by institutions and to have 20 percent of their patients under the age of 65, which is similar to the patient mix for institutions currently engaged in CDTM. The weighted average portion of the time spent on the under 65 population is therefore 43 percent. It may be that some portion of future growth occurs in private practice settings rather than just in institutional and community health center settings – the 43 percent assumption used is also consistent with scenarios not explicitly calculated here that have similar overall growth but some distribution in private practice.

Multiplying together the projected number of new CDTM providers by the hours per provider per year and the portion of their time spent of the under 65 population and the commercial fully-insured percentage from Section 4.1 results in the total new-provider fully-insured commercial CDTM capacity estimates shown in Table 7.

**Table 7:  
Estimated Hours of CDTM Available to Fully-Insured Commercial Members  
from New Pharmacists Qualified to Practice CDTM, 2017 to 2021**

|               | 2017  | 2018  | 2019   | 2020   | 2021   |
|---------------|-------|-------|--------|--------|--------|
| Low Scenario  | 1,158 | 1,889 | 2,714  | 3,645  | 4,696  |
| Mid Scenario  | 1,853 | 3,755 | 6,185  | 9,291  | 13,266 |
| High Scenario | 2,702 | 6,278 | 11,377 | 18,658 | 29,063 |

#### Hours of CDTM services meeting unmet demand

A 2005 study estimated that meeting the needs of patients with certain chronic conditions for management services would require a three-fold increase in the amount of time primary care physicians spent providing such services.<sup>27</sup> Additional literature supports the general conclusion that significant unmet demand exists for medical management of chronic conditions<sup>28</sup> but does not provide a basis for quantifying the effect.

In the absence of additional quantitative evidence regarding unmet demand for medication therapy management, Compass used the 2005 study to arrive at a mid-level scenario estimate of 75 percent for the proportion of the time of new CDTM providers that is devoted to providing incremental services.<sup>iii</sup> Reimbursement rates for pharmacists are likely lower than those for physicians; therefore replacing services currently performed by physicians with similar services performed by pharmacists have the potential to generate savings. However, we assume that the large unmet need for management of patient medications implies that the amount that physicians currently provide will be unchanged, and that all the service provided by pharmacists would be incremental new spending at the pharmacists’ rate. To account for uncertainty in the portion of services that meet currently unmet demand, Compass chose a low-cost scenario estimate of incremental services of 50 percent and a high-cost scenario estimate of incremental services of 100 percent. Applying these percentages to the estimated hours of CDTM services available to fully-insured commercial

<sup>iii</sup> If it would require a three-fold increase in provider time spent on such services to meet demand, this implies that a provider currently spending one hour per day would need to spend four hours per day to meet demand. Therefore, 25 percent of demand is met, and 75 percent unmet.

members from new providers results in the estimated hours of incremental CDTM services displayed in Table 8.

**Table 8:  
Estimated Incremental Hours of CDTM Provided to Fully-Insured Commercial Members  
by New Pharmacists Qualified to Practice CDTM, 2017 to 2021**

|               | 2017  | 2018  | 2019   | 2020   | 2021   |
|---------------|-------|-------|--------|--------|--------|
| Low Scenario  | 579   | 945   | 1,357  | 1,822  | 2,348  |
| Mid Scenario  | 1,390 | 2,817 | 4,639  | 6,968  | 9,949  |
| High Scenario | 2,702 | 6,278 | 11,377 | 18,658 | 29,063 |

Medical expense of incremental CDTM provided to fully-insured commercial members by pharmacists newly-qualified to practice CDTM.

Multiplying the incremental hours of CDTM services from Table 8 by the projected hourly CDTM costs from Table 4 results in the marginal medical expenses of incremental CDTM services provided by pharmacists newly-qualified to practice CDTM shown in Table 9.

**Table 9:  
Estimated Marginal Medical Expense of Incremental CDTM Performed  
by New Pharmacists Qualified to Practice CDTM, 2017 to 2021**

|               | 2017      | 2018        | 2019        | 2020        | 2021         |
|---------------|-----------|-------------|-------------|-------------|--------------|
| Low Scenario  | \$145,831 | \$249,344   | \$377,540   | \$534,911   | \$727,767    |
| Mid Scenario  | \$395,789 | \$840,780   | \$1,459,511 | \$2,313,053 | \$3,487,435  |
| High Scenario | \$858,632 | \$2,090,933 | \$3,993,797 | \$6,909,703 | \$11,365,726 |

### 4.3. Total incremental medical expense of CDTM over 2017 to 2021

Summing the estimated cost of CDTM performed by CPA pharmacists in current practice from Table 5 in Section 4.1 and the cost of incremental CDTM services performed by additional qualified pharmacists beginning practice over the projection period from Table 9 in Section 4.2 results in the total estimated cost of the CDTM provision shown in Table 10.

**Table 10:  
Estimated Total Marginal Medical Expense of the CDTM Provision**

|               | 2017        | 2018        | 2019        | 2020        | 2021         |
|---------------|-------------|-------------|-------------|-------------|--------------|
| Low Scenario  | \$687,378   | \$810,523   | \$962,316   | \$1,144,775 | \$1,364,312  |
| Mid Scenario  | \$1,130,673 | \$1,602,304 | \$2,253,058 | \$3,140,644 | \$4,351,233  |
| High Scenario | \$1,815,197 | \$3,082,174 | \$5,026,720 | \$7,986,939 | \$12,490,091 |

Assessing indirect cost offsets that this additional drug management would generate is beyond the scope of this study, however, the cost estimates above should be considered in the context of the

research literature, which contains extensive examples of reduced diseased-related costs from more accurate dosing and better medication adherence.<sup>iv</sup>

#### 4.4. Incremental cost of pharmacist-dispensed hormonal contraceptives

As noted in Section 2, this analysis assumes the incremental cost of the contraception provision is the cost of increased utilization of these products due to their availability in the pharmacy setting. The analysis begins by estimating the magnitude of the utilization increase.

##### Increase in utilization due to H.B. 2041

Compass was unable to identify studies of the effect of pharmacist-dispensed self-administered hormonal contraceptives on demand for these products. However, in a 2011 nationally-representative survey of women across income levels, 30 percent of women using no contraception or a method less effective than oral contraceptive pills reported they would likely use oral contraceptives if they became available over the counter.<sup>29</sup> Similarly, a recent study of the potential effect of over-the-counter access to oral contraceptive pills on low-income women estimated such access would result in an 11 to 21 percent increase in the number of low income women using oral contraceptives, depending upon the level of out-of-pocket cost assumed.<sup>30</sup>

Based on 2014 APCD data 61percent of women of childbearing age in Massachusetts currently use contraception. Similarly the Guttmacher Institute estimates that 38 percent of U.S. women of reproductive age use no contraception.<sup>31</sup> Multiplying this estimate by the 30 percent of women using no contraception that would use oral contraceptives if available over the counter results in an estimate of 11.5 percent of all women of childbearing age, regardless of health insurance status or type, who will begin using hormonal contraception. The resulting increase in contraception utilization (as a percentage of existing contraception use) can be calculated by dividing the 11.5 percent of women who will begin using contraception by the 61 percent of women currently using contraception, resulting in an 18.8 percent increase in contraception utilization. Similarly, the cited 11 to 21 percent increase in the number of low-income women using contraception was converted to a range of increased utilization of between 18.8 percent and 34.3 percent.

To develop an estimated range of increase in hormonal contraception utilization for commercial fully-insured women in the presence of the proposed mandate, Compass applied the 18.8 to 34.3 percent estimate range found in the study of low-income women to the MassHealth population, then derived the utilization increases implied for the non-MassHealth population by the estimated 18.8 percent for all women, and applied the result to the commercial fully-insured population.

Using the 2014 MA APCD eligibility file, Compass calculated that MassHealth members comprise 22 percent of eligible member-months for women aged 15 to 44. Choosing 26.2 percent as the middle-cost scenario utilization increase for low-income women, Compass derived the range of utilization increases for self-administered hormonal contraception for the non-MassHealth population as shown in Table 11.

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<sup>iv</sup> See, for example, Roebuck, MC, et al, "Medication adherence leads to lower healthcare use and costs despite higher drug spending," *Health Affairs*, Vol. 30, No. 1, (2011), pp. 91-99.

**Table 11:  
Estimated Increase in Hormonal Contraception Utilization**

|                         | Total | MassHealth | Other |
|-------------------------|-------|------------|-------|
| Percent of Women, 15-44 | 100%  | 22%        | 78%   |
| Low Scenario            | 18.8% | 34.3%      | 14.4% |
| Mid Scenario            | 18.8% | 26.2%      | 16.7% |
| High Scenario           | 18.8% | 18.8%      | 18.8% |

Applying the increase to the baseline PMPM expense

An analysis of 2014 MA APCD prescription self-administered hormonal contraception<sup>v</sup> fully-insured pharmacy claims paid by the three largest commercial carriers in Massachusetts found \$33,563,705 in payments for these products. Average 2014 monthly fully-insured pharmacy membership for the three carriers was 1,352,123, resulting in paid claims PMPM of \$2.07.

Multiplying the estimated utilization increases by the \$2.07 PMPM medical expense for these products in 2014 yields the estimated incremental PMPM medical expense for the hormonal contraception provision of H.B. 2041. Table 12 summarized the 2014 PMPM medical expense, the estimated utilization increases, and their respective incremental PMPM medical expenses.

**Table 12:  
Estimated Annual Marginal Cost of Hormonal Contraceptives**

|               | Observed<br>2014 PMPM<br>Medical Expense | Estimated<br>Utilization Increase<br>Under H.B. 2041 | Estimated<br>Incremental PMPM<br>Medical Expense |
|---------------|--|--|--|
| Low Scenario  | \$2.07                                   | 14.4%  | \$0.30   |
| Mid Scenario  | \$2.07                                   | 16.7%  | \$0.35   |
| High Scenario | \$2.07                                   | 18.8%  | \$0.39   |

Assessing the indirect cost offsets that may arise from the incremental contraception provision is beyond the scope of this study, but offsets related to reduced costs for pregnancy-related medical spending should be considered when evaluating these estimates. In addition, pharmacist reimbursement rates are likely lower than physician rates so some savings could occur. However it is expected that most women already seeing their physician will continue to do so and any potential savings were not considered material to the analysis.

**4.5. Incremental cost of pharmacist-dispensed nicotine replacement**

As noted in Section 2, this analysis assumes the incremental cost of the nicotine replacement provision is the cost of increased utilization of these products owing to their availability in the pharmacy setting. The analysis begins by estimating the magnitude of the increase.

<sup>v</sup> Oral contraceptive pills, transdermal patches, and vaginal rings.



### Increase in utilization due to H.B. 2041

A 2002 study examining the effects on Massachusetts smokers' quitting behavior of the 1996 change in availability of many nicotine replacement products from prescription-only to over-the-counter found no increase in the likelihood of quitting.<sup>32</sup> This analysis therefore assumes the number of additional smokers using prescription nicotine replacement products under the proposed mandate to be zero in the low-cost scenario.

However, while conversion of the products in the 2002 report to over-the-counter status made them easier to obtain, over-the-counter pharmaceuticals are not typically covered by commercial prescription drug insurance benefits. Therefore, if a product in the study was covered when obtained with a prescription, its cost to the consumer would increase if obtained over-the-counter. H.B. 2041 proposes to make prescription nicotine replacement products easier to obtain by allowing pharmacists to dispense them without a physician's prescription, and this analysis assumes the bill would require pharmacist-dispensed nicotine replacement products to be covered by carriers under the same terms as those prescribed under current Massachusetts law.

An analysis of 2014 APCD prescription nicotine replacement product pharmacy claims paid under fully-insured plans by the three largest commercial carriers in Massachusetts found \$4,244,615, or \$0.26 PMPM, in payments for these products for a combined 19,235 fully-insured users out of 1,352,123 average monthly fully-insured members in 2014.

The Massachusetts Department of Health reports that 10.5 percent of commercially insured Massachusetts adults were smokers in 2014.<sup>33</sup> Applying this percentage to the 1,352,123 average monthly members yields an estimate of 141,972 smokers in this population. Dividing the 19,235 fully-insured users of prescription nicotine replacement products by the estimated number of fully-insured smoker's results in an estimate of approximately 13.6 percent of smokers using prescription nicotine products during the year. We assume this percentage applies to the entire fully-insured population.

The Center of Health and Public Policy Studies at the University of California School of Public Health conducted a study on variations in treatment benefits and their influence on smoking cessation.<sup>34</sup> The study was designed to assess the impact and costs of coverage for tobacco dependence treatment benefits (nicotine replacement treatment – NRT – and educational material) with no patient cost sharing for smokers with employer-sponsored coverage. Individuals in the study were mailed a letter explaining their benefits. Individuals in the treatment group received NRT at no cost if they called to request the products (similar to mail order), and individuals in the control group received only a self-help kit (and if they chose to use NRT had to pay the over-the-counter cost of the nicotine replacement product). 25 percent of the treatment group and 14 percent of the control group used a nicotine patch or gum.

The Kaiser Family Foundation reported that in 2014 65.2 percent of smokers in Massachusetts attempted to quit.<sup>35</sup> Two extreme scenarios were calculated using the results of the California study as follows: for an extreme high-end scenario Compass multiplied 65.2 percent of smokers attempting to quit in a given year by 25 (from the treatment group in the California study) percent



attempting to quit using NRT. This yields an estimated 16.3 percent of all smokers that would attempt to quit using NRT in a year ( $65.2 \times 25 = 16.3$ ). Likewise Compass calculated an extreme low scenario by multiplying the 65.2 percent of smokers attempting to quit in a given year by 14 percent attempting to quit using NRT. This yields an estimated 9.1 percent of smokers that would attempt to quit using NRT in a year ( $65.2 \times 14 = 9.1$ ). As discussed above the 2014 APCD data for the Massachusetts commercially insured population shows that the percentage of smokers attempting to quit using NRT was 13.6 percent, in the middle of the two extreme scenarios. This is 21 percent of the smokers attempting to quit ( $13.6/65.2$ ) and this compares to 25 percent in the treatment group of the California study.

Under the proposed Massachusetts mandate, it is unlikely the percentage of smokers using NRT would get as high as the California study treatment group (16.3 percent) as this group was notified of the benefit and was provided nicotine replacement at no cost, whereas the population subject to the proposed mandate would bear some cost sharing. The middle-cost scenario of this analysis assumes 65.2 percent of smokers attempt to quit in a given year and of them 22.4 percent attempt to quit using NRT. This yields an estimated 14.6 percent of smokers that would use nicotine products in a year ( $65.2 \times 22.4 = 14.6$ ), a 1 percent increase in the number of smokers who will attempt to quit. The high-cost scenario assumes an additional 2 percent of smokers will use NRT or as many as 15.6 percent of smokers would attempt to quit each year.

An additional one to two percent of smokers using prescription nicotine replacement annually as a proportion of a baseline rate of prescription nicotine replacement use of 13.6 percent represent an increase in use of the products of 7.4 to 14.8 percent. This analysis therefore estimates a utilization increase of 7.4 percent in the middle-cost scenario and 14.8 percent in the high-cost scenario.

#### Applying the increase to the baseline PMPM expense

Multiplying the estimated utilization increases by the \$0.26 PMPM medical expense for these products in 2014 (from above as observed in the MA APCD) yields the estimated incremental PMPM medical expense for the nicotine replacement products provision of H.B. 2041. Table 13 summarizes the 2014 PMPM medical expense, the estimated utilization increases, and their respective incremental PMPM medical expenses.

**Table 13:  
Estimated Annual Marginal Cost of Nicotine Replacement Products**

|               | Observed<br>2014 PMPM<br>Medical Expense | Estimated<br>Utilization Increase<br>Under H.B. 2041 | Estimated<br>Incremental PMPM<br>Medical Expense |
|---------------|--|--|--|
| Low Scenario  | \$0.26                                   | 0.0%   | \$0.00   |
| Mid Scenario  | \$0.26                                   | 7.4%   | \$0.02   |
| High Scenario | \$0.26                                   | 14.8%  | \$0.04   |

Assessing the indirect cost offsets that may arise from the incremental nicotine replacement provision is beyond the scope of this study, but offsets related to reduced costs for smoking-related medical spending should be considered when evaluating these estimates.

#### 4.6. Adjust pharmacy results for PBM carve-outs

Fully-insured 2014 pharmacy membership in the MA APCD is approximately 1.2 percent lower than fully-insured medical membership, likely owing to employer groups that self-insure pharmacy benefits through a separate pharmacy benefits manager. Such self-insured arrangements are not subject to the proposed mandate, and therefore do not contribute to the cost of the mandate. However, to calculate the costs to fully-insured plans subject to the mandate, the PMPM incremental pharmacy costs for the nicotine replacement and hormonal contraception provisions must be adjusted to a medical membership basis. Table 14 shows the adjusted results.

**Table 14:**  
**Estimated Annual Marginal Cost of Nicotine Replacement and Contraception Provisions Adjusted to a Medical Membership Basis**

|               | Nicotine Replacement Cost PMPM | Hormonal Contraception Cost PMPM | Total Pharmacist-Dispensed Pharmaceutical PMPM |
|---------------|--------------------------------|----------------------------------|--|
| Low Scenario  | \$0.00                         | \$0.29                           | \$0.29   |
| Mid Scenario  | \$0.02                         | \$0.34                           | \$0.36   |
| High Scenario | \$0.04                         | \$0.38                           | \$0.42   |

#### 4.7. Projected PMPM cost of additional nicotine replacement and contraception products

The baseline combined PMPM cost was then projected from 2014 through the end of the study period, increasing the cost per scenario by an average of 3 percent annually in the low-cost scenario, 3.2 percent in the medium-cost scenario, and 3.3 percent in the high-cost scenario, based on estimates of inflation for pharmaceutical products.<sup>36</sup> Table 15 shows these results.

**Table 15:**  
**Estimated Marginal PMPM Cost Projected for Study Period**

|               | 2014 Baseline | 2017   | 2018   | 2019   | 2020   | 2021   |
|---------------|---------------|--------|--------|--------|--------|--------|
| Low Scenario  | \$0.29        | \$0.32 | \$0.33 | \$0.34 | \$0.35 | \$0.36 |
| Mid Scenario  | \$0.36        | \$0.40 | \$0.41 | \$0.42 | \$0.43 | \$0.45 |
| High Scenario | \$0.42        | \$0.46 | \$0.48 | \$0.50 | \$0.51 | \$0.53 |

#### 4.8. Projected fully-insured population in Massachusetts

Table 16 shows the fully-insured population in Massachusetts age 0 to 64 projected for the next five years. The attached appendix describes the sources of these values.

**Table 16:  
Projected Fully-Insured Population in Massachusetts, Ages 0-64**

| <u>Year</u> | <u>Total (0-64)</u> |
|-------------|---------------------|
| 2017        | 2,158,712           |
| 2018        | 2,156,403           |
| 2019        | 2,153,622           |
| 2020        | 2,149,554           |
| 2021        | 2,145,579           |

#### 4.9. Expense of additional nicotine replacement and contraceptive products

Multiplying the total estimated PMPM cost by the projected fully-insured membership over the analysis period results in the total cost (medical expense) associated with the nicotine replacement and contraception products provisions of the proposed mandate, shown in Table 17.

**Table 17:  
Estimated Marginal Medical Expense  
of Nicotine Replacement and Contraceptive Product Provisions**

|               | 2017          | 2018          | 2019          | 2020          | 2021          |
|---------------|---------------|---------------|---------------|---------------|---------------|
| Low Scenario  | \$ 8,342,157  | \$ 8,583,233  | \$ 8,829,325  | \$ 9,077,030  | \$ 9,332,052  |
| Mid Scenario  | \$ 10,258,940 | \$ 10,568,313 | \$ 10,884,879 | \$ 11,208,372 | \$ 11,543,775 |
| High Scenario | \$ 12,042,767 | \$ 12,416,595 | \$ 12,799,712 | \$ 13,195,045 | \$ 13,606,766 |

#### 4.10. Total incremental medical expense from 2017 to 2021

Summing the estimated marginal medical expense of the nicotine replacement and contraception provisions from Table 17 in Section 4.9 and the estimated marginal medical expense of the CDTM provision from Table 10 in Section 4.3 results in the total estimated marginal medical expense of H.B. 2041 shown in Table 18. The 2017 total medical expense estimate has been adjusted to reflect the assumption that H.B. 2041 would take effect for plan renewals on or after January 1, 2017, such that the mandate would not be in effect for all of 2017 for plans renewing mid-year.<sup>vi</sup>

**Table 18:  
Estimated Total Marginal Medical Expense of H.B. 2041**

|               | 2017        | 2018         | 2019         | 2020         | 2021         |
|---------------|-------------|--------------|--------------|--------------|--------------|
| Low Scenario  | \$6,438,059 | \$9,393,756  | \$9,791,641  | \$10,221,805 | \$10,696,363 |
| Mid Scenario  | \$8,120,794 | \$12,170,617 | \$13,137,937 | \$14,349,015 | \$15,895,008 |
| High Scenario | \$9,880,728 | \$15,498,769 | \$17,826,432 | \$21,181,984 | \$26,096,857 |

<sup>vi</sup> The analysis assumes the mandate would be effective for policies issued and renewed on or after January 1, 2017. The impact of the mandate on cost in 2017 was estimated at 71.3 percent of the annual cost, using an assumed renewal distribution by month, by market segment, and by the Massachusetts market segment composition.

#### 4.11. Carrier retention and increase in premium

Assuming an average annual retention rate of 11.0 percent based on CHIA's analysis of administrative costs and profit in Massachusetts,<sup>37</sup> the increase in medical expense was adjusted upward to approximate the total impact on premiums. Table 19 shows the result.

**Table 19:  
Estimated Increase in Premiums Projected for Study Period**

|               | 2017         | 2018         | 2019         | 2020         | 2021         |
|---------------|--------------|--------------|--------------|--------------|--------------|
| Low Scenario  | \$7,232,247  | \$10,552,554 | \$10,999,521 | \$11,482,750 | \$12,015,848 |
| Mid Scenario  | \$9,122,561  | \$13,671,964 | \$14,758,610 | \$16,119,085 | \$17,855,789 |
| High Scenario | \$11,099,598 | \$17,410,670 | \$20,025,470 | \$23,794,958 | \$29,316,121 |

These total estimated premium increases are then divided by the projected fully-insured member months subject to the mandate from Table 16 to calculate the projected PPM increase in premiums shown in Table 20.

**Table 20:  
Estimated PPM Increase in Premiums Projected for Study Period**

|               | 2017   | 2018   | 2019   | 2020   | 2021   |
|---------------|--------|--------|--------|--------|--------|
| Low Scenario  | \$0.39 | \$0.41 | \$0.43 | \$0.45 | \$0.47 |
| Mid Scenario  | \$0.49 | \$0.53 | \$0.57 | \$0.62 | \$0.69 |
| High Scenario | \$0.60 | \$0.67 | \$0.77 | \$0.92 | \$1.14 |

## 5. Results

The estimated impact of the proposed mandate on medical expense and premiums appears below. The analysis includes development of a best estimate “mid-level” scenario, as well as a low-level scenario using assumptions that produced a lower estimate, and a high-level scenario using more conservative assumptions that produced a higher estimated impact.

The impact on premiums is driven by the estimates of the number of CPA pharmacists, the proportion of CPA pharmacists practicing CDTM, the amount of CDTM each CPA pharmacist will provide annually, and the effects of pharmacist-dispensed nicotine replacement and hormonal contraceptive products on utilization of those products. The uncertainties in these estimates are addressed by modeling a range of assumptions within reasonable judgment-based limits, and producing a range of incremental impact estimates based on varying these parameters.

Starting in 2020, the federal Affordable Care Act will impose an excise tax, commonly known as the “Cadillac Tax”, on expenditures on health insurance premiums and other relevant items (health savings account contributions, etc.) that exceed specified thresholds. To the extent relevant expenditures exceed those thresholds (in 2020), H.B. 2041, by increasing premiums, has the potential of creating liability for additional amounts under the tax. Estimating the amount of

potential tax liability requires information on the extent to which premiums, notwithstanding the effect of H.B. 2041, will exceed or approach the thresholds and is beyond the scope of this analysis.

## 5.1. Five-year estimated impact

For each year in the five-year analysis period, Table 21 displays the projected net impact of the mandate on medical expense and premiums using a projection of Massachusetts fully-insured membership. Note the relevant provisions of H.B. 2041 are assumed effective January 1, 2017.<sup>38</sup>

The low scenario impact is \$11 million per year on average, reflecting lower estimates of induced utilization of nicotine replacement and contraceptive products, available CDTM capacity, and lower unmet demand for CDTM. The high scenario has an average cost of \$22 million per year, and reflects higher assumptions for each of these variables. The middle scenario has average annual costs of \$15 million per year, or an average of 0.12 percent of premium.

As noted above, the costs associated with the CDTM, contraception, and nicotine replacement provisions should be evaluated in the context of cost offsets beyond the scope of this study related to savings from better medication dosing and adherence, reduced pregnancy-related medical spending, and reduced smoking-related medical spending.

Finally, the impact of the proposed law on any one individual, employer-group, or carrier may vary from the overall results depending on the current level of benefits each receives or provides, and on how the benefits will change under the mandate.

**Table 21: Summary Results**

|                               | 2017     | 2018     | 2019     | 2020     | 2021     | Weighted Average | 5 Yr Total |
|-------------------------------|----------|----------|----------|----------|----------|------------------|------------|
| Members (000s)                | 2,159    | 2,156    | 2,154    | 2,150    | 2,146    |                  |            |
| Medical Expense Low (\$000s)  | \$6,438  | \$9,394  | \$9,792  | \$10,222 | \$10,696 | \$9,877          | \$46,542   |
| Medical Expense Mid (\$000s)  | \$8,121  | \$12,171 | \$13,138 | \$14,349 | \$15,895 | \$13,512         | \$63,673   |
| Medical Expense High (\$000s) | \$9,881  | \$15,499 | \$17,826 | \$21,182 | \$26,097 | \$19,202         | \$90,485   |
| Premium Low (\$000s)          | \$7,232  | \$10,553 | \$11,000 | \$11,483 | \$12,016 | \$11,095         | \$52,283   |
| Premium Mid (\$000s)          | \$9,123  | \$13,672 | \$14,759 | \$16,119 | \$17,856 | \$15,179         | \$71,528   |
| Premium High (\$000s)         | \$11,100 | \$17,411 | \$20,025 | \$23,795 | \$29,316 | \$21,571         | \$101,647  |
| PMPM Low                      | \$0.39   | \$0.41   | \$0.43   | \$0.45   | \$0.47   | \$0.43           | \$0.43     |
| PMPM Mid                      | \$0.49   | \$0.53   | \$0.57   | \$0.62   | \$0.69   | \$0.59           | \$0.59     |
| PMPM High                     | \$0.60   | \$0.67   | \$0.77   | \$0.92   | \$1.14   | \$0.84           | \$0.84     |
| Estimated Monthly Premium     | \$463    | \$473    | \$483    | \$493    | \$503    | \$483            | \$483      |
| Premium % Rise Low            | 0.085%   | 0.086%   | 0.088%   | 0.090%   | 0.093%   | 0.089%           | 0.089%     |
| Premium % Rise Mid            | 0.107%   | 0.112%   | 0.118%   | 0.127%   | 0.138%   | 0.122%           | 0.122%     |
| Premium % Rise High           | 0.130%   | 0.142%   | 0.161%   | 0.187%   | 0.226%   | 0.173%           | 0.173%     |

## 5.2. Impact on the GIC

The proposed mandate is assumed to apply to both fully-insured and self-insured plans operated for state and local employees by the GIC, with an effective date for all GIC policies on July 1, 2017.

Because the benefit offerings of GIC plans are similar to those of most other commercial plans in Massachusetts, the estimated PMPM effect of the proposed mandate on GIC medical expense is not expected to differ from that calculated for the other fully-insured plans in Massachusetts. This is consistent with carrier survey responses which, in general, did not indicate differences in coverage for the GIC.

To estimate the medical expense separately for the GIC, the PMPM medical expense for the general fully-insured population was applied to the GIC membership starting in July of 2017.

Table 22 breaks out the GIC-only fully-insured membership and the GIC self-insured membership, and the corresponding incremental medical expense and premium. Note that the total medical expense and premium values for the general fully-insured membership displayed in Table 21 also include the GIC fully-insured membership. Finally, the proposed mandate is assumed to require the GIC to implement the provisions on July 1, 2017; therefore, the results in 2017 are approximately one-half of an annual value.

**Table 22:  
GIC Summary Results**

|                               | 2017  | 2018    | 2019    | 2020    | 2021    | Weighted Average | 5 Yr Total |
|-------------------------------|-------|---------|---------|---------|---------|------------------|------------|
| <b>GIC Fully-Insured</b>      |       |         |         |         |         |                  |            |
| Members (000s)                | 54    | 54      | 54      | 54      | 54      |                  |            |
| Medical Expense Low (\$000s)  | \$113 | \$235   | \$245   | \$255   | \$267   | \$248            | \$1,115    |
| Medical Expense Mid (\$000s)  | \$142 | \$304   | \$328   | \$359   | \$397   | \$340            | \$1,531    |
| Medical Expense High (\$000s) | \$173 | \$388   | \$446   | \$529   | \$652   | \$486            | \$2,188    |
| Premium Low (\$000s)          | \$127 | \$264   | \$275   | \$287   | \$300   | \$279            | \$1,253    |
| Premium Mid (\$000s)          | \$160 | \$342   | \$369   | \$403   | \$446   | \$382            | \$1,720    |
| Premium High (\$000s)         | \$195 | \$435   | \$501   | \$595   | \$732   | \$546            | \$2,458    |
| <b>GIC Self-Insured</b>       |       |         |         |         |         |                  |            |
| Members (000s)                | 270   | 270     | 269     | 269     | 268     |                  |            |
| Medical Expense Low (\$000s)  | \$565 | \$1,174 | \$1,224 | \$1,277 | \$1,336 | \$1,239          | \$5,575    |
| Medical Expense Mid (\$000s)  | \$712 | \$1,521 | \$1,642 | \$1,792 | \$1,985 | \$1,701          | \$7,653    |
| Medical Expense High (\$000s) | \$866 | \$1,937 | \$2,228 | \$2,646 | \$3,259 | \$2,431          | \$10,936   |

## Appendix: Membership Affected by the Proposed Mandate

This appendix describes the calculations used to estimate the number of members whose coverage is potentially affected by a proposed mandate. It addresses several different aggregations of members and analysis of the impact of a given proposed mandate may draw on some or all of these aggregations. Sources used to develop these population estimates and projections are provided below.

Membership potentially affected by a proposed mandate may include Massachusetts residents with fully-insured employer-sponsored health insurance issued by a Massachusetts licensed company (including through the GIC), non-residents with fully-insured employer-sponsored insurance issued in Massachusetts, Massachusetts residents with individual (direct) health insurance coverage, and lives covered by GIC self-insured coverage. Membership projections for 2017 to 2021 are derived from the following sources.

The 2014 Massachusetts All Payer Claim Database (MA-APCD) formed the base for the projections. The MA-APCD provided fully-insured and self-insured membership by insurance carrier. The MA-APCD was also used to estimate the number of non-residents covered by a Massachusetts policy. These are typically cases in which a non-resident works for a Massachusetts employer offering employer-sponsored coverage. Adjustments were made to the data for membership not in the MA-APCD, based on published membership reports available from the Massachusetts Center for Health Information and Analysis (CHIA) and the Massachusetts Division of Insurance (DOI).

CHIA publishes a quarterly enrollment trends report and supporting databook (enrollment-trends-July-2016-databook<sup>39</sup>), which provides enrollment data for Massachusetts residents by insurance carrier for most carriers (some small carriers are excluded). CHIA uses supplemental information beyond the data in the MA-APCD to develop their enrollment trends reports and provided Compass with details on where they used supplemental carrier information for their December 2014 reported enrollment. The supplemental data was used to adjust the resident totals from the MA-APCD.

The DOI published two reports titled Quarterly Report of Health Maintenance Organization Membership in Closed Network Health Plans as of December 31, 2014<sup>40</sup> and Massachusetts Division of Insurance Annual Report Membership in MEDICAL Insured Preferred Provider Plans by County as of December 31, 2014.<sup>41</sup> These reports describe fully-insured covered members for licensed Massachusetts insurers where the member's primary residence is in Massachusetts. The DOI reporting includes all insurance carriers and was used to supplement the MA-APCD membership for small carriers not in the MA-APCD.

The distribution of members by age and gender was estimated using MA-APCD population distribution ratios and was checked for reasonableness and validated against the U.S. Census.<sup>42</sup> Membership was projected forward from the 2014 base year to 2015 using the American Community Survey,<sup>43</sup> and then from 2015 through 2021 using Census Bureau population growth rate estimates by age and gender.<sup>44</sup>

Projections for the GIC self-insured lives were developed using GIC base data for 2013,<sup>45</sup> 2014,<sup>46</sup> and 2015,<sup>47</sup> and the same projected growth rates from the Census Bureau that were used for the Massachusetts population. Breakdowns of the GIC self-insured lives by gender and age were based on the Census Bureau distributions.



## Endnotes

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- <sup>1</sup> The 189<sup>th</sup> General Court of the Commonwealth of Massachusetts, House Bill 3488, “An Act providing for certain health care coverage.” Accessed 26 April 2016: <https://malegislature.gov/Bills/189/House/H3488>.
- <sup>2</sup> M.G.L. c. 112 §24B½. Accessed 11 July 2016: <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXVI/Chapter112/Section24B1~2>.
- <sup>3</sup> *Op. Cit.* M.G.L. c. 112 §24B½.
- <sup>4</sup> National Center for Chronic Disease Prevention and Health Promotion (CDC). Collaborative Practice Agreements and Pharmacists’ Patient Care Services. October 2013. Accessed 17 May 2016: [http://www.cdc.gov/dhdsp/pubs/docs/Translational\\_Tools\\_Pharmacists.pdf](http://www.cdc.gov/dhdsp/pubs/docs/Translational_Tools_Pharmacists.pdf).
- <sup>5</sup> *Op. Cit.* CDC: Collaborative Practice Agreements and Pharmacists’ Patient Care Services.
- <sup>6</sup> *Op. Cit.* M.G.L. c. 112 §24B½.
- <sup>7</sup> *Op. Cit.* M.G.L. c.112 §24B½.
- <sup>8</sup> *Op. Cit.* M.G.L. c.112 §24B½.
- <sup>9</sup> Excel listing of pharmacists with an MCSR as of 22 June 2016 provided to Compass by Jonathan M. Mundy, RPh, MBA, Director, Office of Prescription Monitoring and Drug Control, The Commonwealth of Massachusetts, Department of Public Health, Bureau of Health Care Safety and Quality.
- <sup>10</sup> Executive Office of Health and Human Services, Massachusetts Department of Public Health. Health Professions Data Series: Pharmacist 2012. Accessed 21 June 2016: <http://www.mass.gov/eohhs/docs/dph/quality/boards/pharmacy/2012-pharmacist-factsheet.pdf>.
- <sup>11</sup> 105 C.M.R. 700.004(B)(6). Accessed 21 June 2016: [https://www.sec.state.ma.us/reg\\_pub/pdf/100/105700.pdf](https://www.sec.state.ma.us/reg_pub/pdf/100/105700.pdf).
- <sup>12</sup> M.G.L. c.175 §47W, c.176A §8W, c.176B §4W, c.176G §4O.
- <sup>13</sup> Patient Protection and Affordable Care Act, 42 U.S.C. § 18001 et seq. (2010).
- <sup>14</sup> *Op. Cit.* Patient Protection and Affordable Care Act, 42 U.S.C. § 18001 et seq. (2010).
- <sup>15</sup> Tobacco Control Legal Consortium. How the Affordable Care Act Affects Tobacco Use and Control. Accessed 14 June 2016: [http://www.integration.samhsa.gov/health-wellness/How\\_the\\_Affordable\\_Care\\_Act\\_Affects\\_Tobacco\\_Use\\_and\\_Control.pdf](http://www.integration.samhsa.gov/health-wellness/How_the_Affordable_Care_Act_Affects_Tobacco_Use_and_Control.pdf).
- <sup>16</sup> In May of 2014, the Department of Labor issued a guidance document which indicated that it would consider group health plans or health insurance issuers to be in compliance with USPSTF requirement if coverage included, for example, cessation counseling and all Food and Drug Administration (FDA) approved medications. See FAQs About Affordable Care Act Implementation (Part XIX). May 2, 2014. Accessed 19 October 2016: <https://www.dol.gov/sites/default/files/ebsa/about-ebsa/our-activities/resource-center/faqs/aca-part-xix.pdf>.
- <sup>17</sup> *Op. Cit.* DOL, FAQs About Affordable Care Act Implementation (Part XIX).
- <sup>18</sup> State Tobacco Cessation Coverage: Massachusetts. American Lung Association. Accessed 14 June 2016: <http://www.lungusa2.org/cessation2/statedetail.php?stateId=25>.
- <sup>19</sup> HMO Blue® New England \$2,000 Deductible Plan Option. Accessed 19 October 2016: <http://www.mass.gov/ocabr/docs/doi/ehbbp-hmoblue-2017.pdf>.
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- <sup>21</sup> Massachusetts Center for Health Information and Analysis. Enrollment Trends, February 2016 Databook. Table 2. Accessed 1 July 2016: <http://www.chiamass.gov/enrollment-in-health-insurance>.
- <sup>22</sup> Kaiser Family Foundation. Community Health Centers: A 2013 Profile and Prospects as ACA Implementation Proceeds Accessed 13 August 2016: <http://kff.org/report-section/community-health-centers-a-2013-profile-and-prospects-as-aca-implementation-proceeds-issue-brief/>.

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- <sup>23</sup> Salary.com. Accessed 07 July 2016: <http://swz.salary.com/SalaryWizard/family-physician-Salary-Details-Boston-MA.aspx>.
- <sup>24</sup> Centers for Medicare and Medicaid Services (CMS), Office of the Actuary. National Health Expenditure Data, NHE Projections 2014-2024 - Forecast Summary. Accessed 27 April 2016: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html>.
- <sup>25</sup> Massachusetts Department of Public Health. Health Professional Data Series Pharmacist 2012, <http://www.mass.gov/dph/hcworkforcecenter>
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- <sup>27</sup> Østbye T, Yarnall K, Krause K, et. al. Is There Time for Management of Patients with Chronic Diseases in Primary Care? *Annals of Family Medicine*. 2005 May; 3(3); 209-214. Accessed 1 July 2016: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1466884/>.
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