Criteria and Methods for Estimating the Impact of Mandates on the Number of Individuals Who Become Uninsured in Response to Premium Increases

The authorizing statute[1] of the California Health Benefits Review Program (CHBRP) requests information on the financial impacts of proposed legislation, including "the extent to which mandating or repealing the proposed benefit or service would not diminish or eliminate access to currently available health care benefits or services"; and "the extent to which costs resulting from lack of coverage or repeal of coverage are or would be shifted to other payers, including both public and private entities."

This document is designed to help readers of CHBRP's bill analyses to understand the methods used in predicting the impact of a specific bill on the number of uninsured in California. Because health insurance premiums can change due to benefit mandate policies or other health insurance-related legislation, CHBRP has historically used the economic literature on price elasticity of demand for health insurance to assess the potential number of people who will go without insurance coverage or lose employer-based coverage due to premium changes.

The implementation of the Affordable Care Act (ACA)[2] changes the impact of a given benefit mandate on insurance coverage. The ACA's individual insurance mandate penalty, employer requirement for larger firms (50 or more full-time equivalent workers) to offer affordable coverage to full-time (30 hour per week) workers, Medicaid coverage expansion, and cost-sharing reductions and tax credits to help individuals purchase insurance coverage have changed the market dynamics and the response of individuals and employers to premium increases. As a result, CHBRP has changed its method for modeling the impact of premium changes on the number of uninsured.

This paper describes the methods that CHBRP uses to predict the impact of benefit mandate legislation after the ACA and for bills that are/were analyzed after January 1, 2013, which would have required an implementation date of January 1, 2014, or after. The impact of benefit mandates on uninsured rates pre-ACA are described in Appendix A.

For any benefit mandate bills scheduled to be implemented during or after ACA implementation, CHBRP changed its methodology from the pre-ACA period to use the UC Berkeley/UCLA California Simulation of Insurance Markets (CalSIM) model to predict changes in insurance coverage due to each specific benefit mandate. The prices and market conditions that California residents are exposed to after the ACA's implementation are substantially different from those prior to the ACA, even though the individual response to rise in premiums is likely to remain similar.

[1] Available at: www.chbrp.org/documents/authorizing_statute.pdf.
[2] The federal "Patient Protection and Affordable Care Act" (P.L.111-148) and the "Health Care and Education Reconciliation Act" (P.L 111-152) were enacted in March 2010. Together, these laws are referred to as the Affordable Care Act (ACA).

The ACA requires[3] that employers with 50 or more full-time equivalent employees must offer affordable coverage or face a penalty. Thus, employers will have an additional incentive to continue offering coverage to avoid penalties. In addition, employees would have an additional incentive to take up employer-sponsored coverage because of penalties for remaining uninsured.

ACA has also changed market dynamics in the individual insurance market, because it requires that all individuals must purchase coverage or face a penalty. In addition, ACA requires that states ban individual underwriting and guarantees that insurers sell policies to individuals in the state's health insurance exchange or the non-exchange individual markets. Tax credits or subsidies are offered to individuals with incomes above 138% up to and including 400% of the FPL and individual penalties ($695/person in 2016 or 2.5% of taxable income [whichever is higher])[4] are included to incentivize individuals to seek and purchase coverage (Healthcare.gov, 2015). In California, premiums can only be based upon age, region, coverage type, and the number of individuals in the policy. Grandfathered plans in the individual market and both grandfathered and non-grandfather plans offered by large employers (>50 in 2014-2015; >100 in 2016 and after) are allowed to base premiums on tobacco use as well (KFF, 2015).

Post-ACA Criteria and Methodology for Predicting Impact on the Uninsured

The CalSIM microsimulation model can predict changes in sources of insurance coverage and the number of uninsured given changes in insurance premiums in each market segment (Medi-Cal, ESI, subsidized individual market, and non-subsidized individual market) (CalSIM, 2015). Due to the newly available coverage programs, subsidies, and penalties made possible by the ACA, CHBRP no longer uses one specific price elasticity value to approximate the impact of a premium change on the number of insured. Instead, CalSIM was used to estimate the effect of a 1% increase in premiums on the number of uninsured. CalSIM is a dynamic model and allows for each individual, family, or employer in the model to be confronted with multiple decisions based on their own characteristics (e.g., health status, risk factors, age) and insurance options. For example, if a married couple is separately insured through two different employer-sponsored health plans and premiums go up by 1 percent in both plans, it may trigger a decision by one of the two firms to stop offering coverage. If that occurs, CalSIM does not assume that one of the two people becomes uninsured simply because the employer dropped coverage. Instead, CalSIM presents the potentially uninsured spouse with options for obtaining insurance via the family plan offered by their spouse's employer, individual market coverage, and Medi-Cal, or allows them to become uninsured. The varied responses that Californians may have to increases in premiums are included in CalSIM, and can be applied in different market segments. CalSIM models the concept of price elasticity to predict individual behavior through micro-simulation.

Using CalSIM to predict post-ACA reactions to health insurance premium changes, CHBRP models increases in the percentage of the uninsured population based upon a 1% increase in health insurance premiums. CHBRP estimates that a 1% increase in private insurance premiums overall will lead to a 0.42 percentage point increase in the number of uninsured (about 10,000 more uninsured individuals) in California during 2017. However, a 1% premium increase in the individual market would have a different aggregate impact due to the availability of subsidies for low to middle-income individuals and the potential for some individuals to face much higher premiums. The elasticity of

[3] ACA Section 1513.
[4] The individual penalty is adjusted to inflation after 2016.

demand varies by individual characteristics and/or risks. Also the decision to purchase insurance, enroll in public programs, or become uninsured varies based on the effective premium faced by each Californian. Therefore, the impact of any specific benefit mandate will vary depending on the market segment.

CHBRP will continue to use the established minimum threshold increase of 1% in premiums before it will produce estimates of a proposed mandate's impact on the number of uninsured. CHBRP will estimate the impact of increase in premiums on specific population subgroups or market segments when possible, using CalSIM and California Health Interview Survey (CHIS) data. For example, if a mandate applies only to the adults aged 50 to 64 years with heart disease in the privately purchased market, CHBRP will use CalSIM and CHIS data to assess the size of this population and would apply the CalSIM-based adjustment to estimate the number of persons who would become uninsured, after considering their eligibility for other public programs or individual insurance subsidies and availability.

Appendix A: Pre-ACA Impacts on the Uninsured

This Appendix describes CHBRP methodology for bills that were analyzed prior to January 1, 2013, and would have been implemented prior to the ACA's coverage expansions.

Factors That Affect Reactions to Premium Increases

Increases in insurance premiums can generate reactions in the employer-sponsored and individual health insurance market that in turn affect the number of insured employees and individuals.

Employer-Sponsored (Group) Market

In the employer-sponsored insurance (ESI) market (i.e., group market), premium increases can affect the: (1) *offer rate,* that is, the percentage of employers who offer health insurance to their employees; (2) *eligibility rate,* that is, the percentage of employees in firms offering health insurance who are eligible for that benefit; and (3) *take-up rate,* that is, among employees in firms offering health insurance who are eligible, the percentage who decide to accept the employer's health insurance benefit. The impact of premium increases on rates of offer and take-up vary in employer-sponsored and individual markets for a number of reasons described in the following sections.

Employer Offer Rate

Elasticity of demand is a way of gauging responsiveness to price changes. The greater the elasticity, the more responsive the employer would be to a given change in insurance prices. When the elasticity is less negative (or more *in*elastic), employers will be less sensitive (less likely to change their behavior) to changes in price. Studies suggest that employers typically do not stop offering health insurance when premiums increase. Literature on employers' incentives to offer insurance indicates a negative, albeit low, price elasticity of demand. Prior to the ACA, price elasticity among employers was generally in the range between -0.05 and -0.07, meaning that an increase of 1% in the price of insurance will reduce coverage by 0.05% to 0.07%. (Gruber and Lettau, 2004; Hadley, 2006; Marquis and Long, 1995; Royalty and Hagens, 2005). However, other studies focusing on the insurance behavior of smaller employers suggest that small firms are more sensitive to changes in the price of insurance (Blumberg et al., 1999; Feldman et al., 1997; Jensen and Gabel, 1992). Thus CHBRP's method assumed that the offer rate would stay the same when premiums rise.

Employee Eligibility Rate

Research has demonstrated that rising health insurance premiums are associated with lower wage growth (Cutler and Madrian, 1998), decreased contribution to other benefits (Goldman et al., 2005), and changes in the composition of employment (Baicker and Chandra, 2005); that is, employers may respond to increased premiums by shifting employment to part-time employees with limited benefits in order to avoid increased health care costs. Because changes in employment are associated with only a small rise in uninsurance, however, eligibility rates are not considered a prime determinant in uninsurance (Hadley, 2006). Therefore CHBRP's method assumed that the eligibility rate would stay the same when premiums rise.

Employee Take-Up Rate

Elasticity of demand is relevant for employees or individuals (as well as for employers) as a way of gauging responsiveness to price or premium changes. Much of the literature on the effects of premium increases on insurance coverage has dealt with the impact of employee out-of-pocket premium expenditures or "net premiums" (defined as the total premium minus the employer's share

of the premium) on take-up rates (Polsky et al., 2005). Chernew and colleagues found a very low elasticity of demand of -0.033 among low-income workers in small firms (25 or fewer employees) when net premiums ranged between 0% to 25% of total premiums (Chernew et al., 1997). They stated that the low elasticity reflected the high probability of baseline participation (that is, most are likely to opt to take up insurance in the first place). Cooper and Vistnes (2003) found that net premiums had a significant effect on employees who enrolled in single coverage, but not on those who enrolled in family coverage. Abraham and Royalty (2005) and Cooper and Schone (1997) found that many workers who decline coverage from their employer are eligible for and obtain insurance through a spouse. Polsky and colleagues found that higher net premiums increase the probability of employees being uninsured for both family and single coverage, although the effect was greater for those enrolling in single coverage (Polsky et al., 2005). These studies do not necessarily measure employer response to rising premiums, specifically, what portion of premium increases to pass onto employees. Instead, they focus on measuring the direct response of employees to increases in their out-of-pocket expenditures for premiums, which may occur because of higher premiums, or a higher share of premiums being passed on by the employer, or both. CHBRP employed a simplifying assumption that the share of premiums paid by employers does not change in response to a specific mandate.

Individual (Non-Group) Market

In the non-group or individual market, premiums directly affect the take-up rate, because individuals personally pay for all the premium costs. However, the literature on price elasticity in the individual, non-group market is quite limited. The body of research in the individual market generally finds price elasticity to be less than -0.5. (Gruber and Lettau, 2004; Hadley, 2006; Marquis and Long, 1995; Royalty and Hagens, 2005). In contrast to the group market, premiums varied by individual and can vary substantially by insurer for the same individual. Marquis and Long (1995) estimated elasticity ranging from -0.3 to -0.4, but this study predated a number of state regulations affecting underwriting practices. Marquis and colleagues estimated elasticity in the California non-group market for family coverage ranging from -0.2 to -0.4 (Marquis et al., 2004). Auerbach and Ohri (2006) found accounting for health status and the effect of state-level premium rating regulations produced a higher estimated elasticity of -0.59 for individuals purchasing single coverage, with greater elasticity for poorer individuals and less elasticity among those with poorer health. Hadley (2006) found that low-income individuals (those with family incomes up to 400 percent of the federal poverty level) are much more price sensitive than high-income individuals (-0.18 versus -0.03).

Pre-ACA Criteria and Methodology for Predicting Impact on the Uninsured

Analyses of the impact of mandates on the number of uninsured were based on the mandate's impact on individual take-up rates, employing the simplifying assumptions that the elasticity is the same across the large-group, small-group, and individual markets. Based on a synthesis of the literature described above CHBRP used a -0.11 elasticity of demand for private health insurance. Using that elasticity of demand, a change of less than 1% in premiums in any market would not have any measurable impact on the number of uninsured in California, so estimates of the numbers of newly uninsured resulting from benefit mandates were calculated only for mandates estimated to increase premiums by more than 1% in a given market.

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