ANALYSIS METHODOLOGY:

Criteria and Methods for Estimating the Impact of New Mandates on the Uninsured Population

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The authorizing statute[1] of the California Health Benefits Review Program (CHBRP) requests information on the financial impacts of proposed health insurance-related 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 understand the methods used to predict the impact of a specific bill on the number of uninsured people in California. Because health insurance premiums can change due to benefit mandates or other health insurance-related legislation, CHBRP has historically used the economic literature on price elasticity of demand for health insurance to estimate the potential number of people who will become uninsured due to health insurance premium increases.

As discussed below, the implementation of federal and state laws has 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 people. This paper describes the methods that CHBRP uses to predict the impact of benefit mandate legislation after the Affordable Care Act (ACA).[2]

CHBRP uses the California Simulation of Insurance Markets (CalSIM) microsimulation model, a joint product of the University of California, Berkeley, and the University of California, Los Angeles, to predict changes in the number of uninsured people due to each specific benefit mandate. The prices and market conditions that California residents are exposed to since the ACA's implementation are substantially different from those prior to the ACA. For example, the ACA requires[3] that employers with 50 or more full-time equivalent employees offer affordable coverage or face a penalty. Thus, employers have an additional incentive to offer coverage to avoid penalties, regardless of increasing premiums.

The ACA has also changed market dynamics in the individual insurance market, because it originally required all individuals to purchase coverage or face a penalty. Although the federal individual mandate penalty was removed in 2019, California enacted its own individual mandate in the same year, named the California Minimum Essential Coverage Individual Mandate.[4] The California mandate includes an employer penalty for a lack of insurance, with some exceptions.[5]

[1] Available on the About Page on CHBRP's website.
[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 impact of benefit mandates on uninsured rates pre-ACA are described in Appendix A.
[3] ACA Section 1513.
[4] California Government Code (GOV) Section 100705.
[5] GOV Section 100705(c). See California Revenue and Taxation Code Section 61015 for information on how the penalty is calculated.

The ACA also requires that states ban individual underwriting[6] and guarantees that insurers sell policies to individuals, both on and off the state's health insurance marketplace.

Premium tax credits or subsidies were originally established under the ACA to reduce health insurance costs individuals with incomes above 138% and up to and including 400% of the federal poverty level (FPL). The American Rescue Plan Act (ARPA) and Inflation Reduction Act (IRA) expanded the tax credits to be more generous for those earning up to 400% the FPL and added tax credits for those above the ACA's income limits through 2025 (CMS, 2022). Existing California law allows for state funds to be used to provide subsidies for those earning up to 600% of the FPL. As of January 2026, the federal ARPA and IRA tax credits have expired; California has allocated state-funded tax credits for individuals earning up to 165% FPL for 2026. Existing law allows California to extend subsidies beyond current levels in the future, however the state's ability to use funds for this purpose would be dependent on condition of the state budget. In California, premiums can only be based upon age, region, coverage type, and the number of individuals in the policy or plan. Grandfathered plans in the individual market and both grandfathered and nongrandfathered plans offered by large employers ($\geq$100 employees) are allowed to base premiums on tobacco use as well (KFF, 2022).

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

The CalSIM model predicts changes in sources of health insurance and the number of uninsured people given changes in insurance premiums in each market segment (Medi-Cal, employer-sponsored insurance, subsidized individual market, and non-subsidized individual market) (CalSIM, 2015). Using information made available through the programs, subsidies, and penalties made possible by the ACA and state laws, CHBRP uses data from the CalSIM model and other sources estimate the impact of proposed legislation on the number of uninsured people, by determining whether premiums have increased past a specified percentage threshold. For 2026, if a proposal would increase premiums by 1%, CHBRP assumes that the number of insured people would decrease. Health insurance markets have different sensitivities to premium changes; that is, the willingness of enrollees to drop or change coverage differs depending on the market in which they are enrolled (Abraham et al., 2017). Enrollees with plans or policies in the individual market are more sensitive than those in the small-group or large-group markets (Abraham et al., 2017). Because of these differences, CHBRP uses different thresholds to calculate whether proposed legislation would increase the number of uninsured people in California. More specifically, CHBRP assumes that in the individual and small-group markets, the number of insured would decrease by 0.07% for every 1% increase in premiums, and in the large-group market, the number of insured would decrease by 0.022% for every 1% increase in premiums.

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 0.6% in both plans, it may trigger a decision by one of the two employers to stop offering health insurance. If that occurs, CalSIM does not assume that one of the two people becomes uninsured simply because the employer dropped health insurance. Instead, CalSIM presents the potentially uninsured spouse with options for obtaining health insurance via the family plan offered by their spouse's employer, the individual market, and Medi-Cal, or allows them to become uninsured. The varied responses that Californians may have to 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 microsimulation.

CHBRP uses CalSIM data to model increases in the percentage of the uninsured population based upon a 1% increase in health insurance premiums in the small- and large-group markets. CHBRP estimates that a 1% increase in insurance premiums in the individual and small-group markets would lead to a 0.07% decrease in insured people in those markets (Gruber and Lettau, 2004); in 2026, this would mean an approximate 25,000 person increase in the uninsured population in California. For the large-group market, CHBRP estimates that a 1% increase in insurance premiums would lead to a

[6] This rule prevents health insurance companies from denying coverage or charging more based on health status or pre-existing conditions for ACA-compliant plans.

0.022% decrease in insured people in that market; in 2026, this would mean an approximate 8,000 person increase in the uninsured population in California. CHBRP's estimates for the large-group market are based on a study by Okeke et al., which examined the rates at which employees waive health insurance as a result of changes in employee cost sharing (Okeke et al., 2010). As explained above, CHBRP uses a different percentage threshold for the individual and small-group markets because elasticity of demand varies by individual characteristics and/or risks; 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(s) to which it applies. For example, CHBRP does not assume that enrollees in the nonsubsidized individual market that purchase plans or policies outside the Covered California marketplace will become uninsured with a 1% or higher premium increase. This is because the increase could result in a shift to purchasing plans or policies through Covered California, where income-based tax credits are available under state law.[7]

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 people. 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 commercial market, CHBRP will use CalSIM and CHIS data to assess the size of this population and 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.

[7] Subsidies could be extended by federal law or under state law, under the Individual Market Assistance Program (California Government Codes 100800-100825).

Appendix A: Pre-ACA Impacts on the Uninsured

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

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.

Employer-Sponsored (Group) Market

In the employer-sponsored insurance (ESI) market (i.e., group market[8]), 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 varies 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 health insurance prices. When the elasticity is less negative (or more inelastic), 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 would 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 rose.

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 rose.

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 health insurance has dealt with the impact of employee 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

[8] Although this document refers to the largest portion of the group market, employers/employees, there are some enrollees accessing group market health insurance with the assistance of a union or some other organization. The impacts described for employers and employees would be similar for other organizations and other enrollees.

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 health insurance in the first place). Cooper and Vistnes (2003) found that net premiums had a significant effect on employees who enrolled in self-only health insurance, but not on those who enrolled in family health insurance. Abraham and Royalty (2005) and Cooper and Schone (1997) found that many workers who decline health insurance from their employer are eligible for and obtain health insurance through a spouse. Polsky and colleagues found that higher net premiums increase the probability of employees being uninsured, although the effect was greater for those enrolling in self-only health insurance (Polsky et al., 2005). These studies do not necessarily measure employer response to rising premiums, specifically, what portion of premium increases are passed onto employees. Instead, they focus on measuring the direct response of employees to increases in their 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 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 individual 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 commercial 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, therefore 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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About the California Health Benefits Review Program (CHBRP)

Drawing on the experience and assistance of multi-disciplinary faculty, researchers, and analysts based at the University of California, CHBRP provides the California Legislature with timely, independent, and rigorous evidence-based analyses of introduced health insurance benefits-related legislation. Most frequently, CHBRP analyzes proposed health insurance benefit mandates (e.g., mandates to cover a test, treatment, or service, such as continuous glucose monitors). For more about CHBRP's 60-day analysis process, see the resource Academic Rigor on a Legislature's Timeline.

To read any of the 200+ bill analyses CHBRP has completed, see the Completed Analysis page on CHBRP's website. In addition to analysis of introduced legislation, CHBRP produces other publications including several annually updated resources, as well as issue briefs and explainers.