



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

By statute, CHBRP is requested to report 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” (SB 1704, Chapter 684, Statute 2006).

Some mandates have been purported to potentially increase premiums to such an extent that they would lead to a reduction in the number of individuals who could afford to purchase insurance and/or in the number of employers who could afford to offer insurance to their employees. Mandates have the potential to impact access to affordable insurance thus increasing the number of uninsured or increasing the number of individuals eligible for public health insurance programs.

This paper describes (1) the factors that underlie employer and individual reactions to premium increases; (2) the criteria that CHBRP uses to determine whether premium increases for a particular mandate would be substantial enough to impact the number of those enrolled in the privately insured market; and (3) the method used by CHBRP to produce these estimates

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. 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. In the non-group market or individual market, premiums directly affect the take-up rate, as individuals respond directly to premium changes. Because of these fundamental differences in the group and non-group markets, it is important to consider the impacts on these markets separately.

Employer-Sponsored Insurance Market

Health insurance premiums in the group market have been increasing at double-digit rates for most of this decade, far exceeding the rate of inflation. For example, in 2003 group premiums rose by 13.9%, in 2004 by 11.2%, and in 2005 by 9.2% (CHCF/NORC, 2005). These large ongoing premium increases suggest that premium increases attributable to a specific health benefit mandate are likely to be overshadowed by the secular trend of rapidly increasing premiums.



Furthermore, the number of uninsured Californians has not been growing despite these rapidly increasing insurance premiums, suggesting that some forces in the market are offsetting the impact of rising premiums on the number of uninsured. From 2003 to 2005, the rate of uninsurance in California (defined as those without insurance for part or all of the year) dropped slightly from 21.0% to 20.2%; the rate of employment-sponsored insurance rose slightly from 53.8% to 54.3% and the rate of non-group (individual) insurance rose slightly from 5.4% to 5.5%. Coverage rates in Medi-Cal or Healthy Families also rose slightly from 15.5% to 15.8% (Yoon et al. 2006).

Employer Offer Rate

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. 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 *inelastic*), employers would be less sensitive to changes in price. Employers' price elasticities generally fall in the range between -0.05 and -0.07, meaning that an increase in one percent in the price of insurance will reduce coverage by 0.05% to 0.07%. (Hadley and Reschovsky 2002; Marquis and Long, 2001; Royalty 2000; and Gruber and Lettau 2000).

Studies focusing on the insurance behavior of small firms (or small groups) suggest that elasticity is more negative than for the health insurance market in general because small firms are more responsive to changes in the price of insurance (Feldman 1997; Blumberg et al. 1999; Jensen and Gabel 1992).

The use of health benefits to attract the best workers is one explanation given for the reluctance of employers to discontinue group health benefits.

Employee Eligibility Rate

Research has demonstrated that rising health insurance premiums are associated with lower wage growth (Cutler 1998); decreased contribution to other benefits (Goldman 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, eligibility rates are not considered a prime determinant in uninsurance (Hadley 2006).

Employee Take-Up Rate

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). (Polsky, Stein 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 therefore employs a simplifying assumption that the share of premiums paid by employers does not change in respond to a specific mandate.

Elasticity of demand for employees or individuals is a way of gauging responsiveness to price or premium changes. The more negative the elasticity, the more responsive the employee or individual would be to smaller changes in premiums. The less negative the elasticity (or more *inelastic*), the less sensitive employees would be to changes in price. 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 percent to 25 percent of total premiums (Chernew et al 1997). They state that the low elasticity reflects the high probability of baseline participation (that is, most are likely to opt to take-up insurance in the first place).

Cooper and Vistnes found that net premiums had a significant effect on employees who enrolled in single coverage, but not on those who enrolled in family coverage (Cooper and Vistnes 2003). They did not calculate price elasticities, but conducted simulation modeling which indicated that a \$500 increase in annual net premiums would produce a decline in take-up rates among employees electing single coverage ranging from 2.31 to 9.44 percent, depending on the proportion of low-wage employees in the firm. Although these studies examine the impact of net premiums on take-up rates, they fail to take into consideration other possible sources of insurance available to many employees. 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). They estimate that reducing the net premium to zero (from a starting point ranging from \$17 to \$24 PMPM) would increase the percentage of insured employees with family coverage by 0.5 percent and with single coverage by 4.9 percent, for an overall total of 2.2 percent.

Individual (Non-Group) Market

The literature on price elasticities in the individual, non-group market is quite limited. This body of research also generally finds relatively low price elasticities, less than -0.5. (Hadley and Reschovsky 2002; Marquis and Long, 2001; Royalty 2000; and Gruber and Lettau 2000) In contrast to the group market, premiums vary by individual and can vary substantially by insurer for the same individual. In addition, surveys of the non-group market generally do not include information on the actuarial value of policies (Cooper and Schone 1997). Marquis and Long (1995) estimated elasticities ranging from -0.3 to -0.4, but this study predated a number of state regulations affecting underwriting practices. Marquis and colleagues estimated elasticities 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.

CHBRP Criteria and Methodology

As discussed above, the empirical research supports the finding that employers do not change their offer rates or eligibility rates in response to premium increases associated with proposed mandates. Therefore, CHBRP focuses its analyses of mandate impacts on the number of uninsured on their impact on employee and individual take-up rates, and employs a simplifying assumption that offer and eligibility rates would remain the same. Furthermore, CHBRP employs a simplifying assumption

that the impact of premium increases is the same in the large-group, small-group, and individual markets.

During the 2004 through 2006 legislative session, CHBRP employed the findings from the Lewin Group's Health Benefits Simulation Model (HBSM), a microsimulation model that has been widely used to estimate the impact of health insurance reform proposals throughout the U.S. The HBSM includes an estimated price elasticity of demand for health insurance in the group market of -0.34 (Lewin Group 2002). This estimate ranges from -0.09 for those with incomes of \$100,000 or more to -0.55 for those with incomes of \$10,000 or less. Although Lewin's elasticity estimates were used in a 2002 report on the costs of health care reform options in California, the data used to produce these elasticities were not identified in the report. Lewin's elasticity estimates were used, where appropriate, for analyses conducted through the end of the 2006 legislation session.

Several recent studies have examined the effect of private insurance premium increases on the number of uninsured (Chernew, Culter, and Kean 2003; Hadley 2006; Glied and Jack 2003). In contrast to the estimated elasticity of -0.34 from the Lewin HBSM, these studies suggest a much lower price elasticity of demand for private health insurance. Chernew et al. estimate that a 10-percent increase in private premiums results in a 0.74 to 0.92 percentage point decrease in the number of insured, while Hadley (2006) and Glied and Jack (2003) estimate that a 10-percent increase in private premiums produces a 0.88 and 0.84 percentage point decrease in the number of insured, respectively.

The price elasticity of demand for insurance can be calculated from these studies in the following way. First, take the average percentage point decrease in the number of insured reported in these studies in response to a 1-percent increase in premiums (about -0.088), divided by the average percentage of insured individuals (about 80 percent), multiplied by 100 percent, i.e., $(\{-0.088/80\} \times 100) = -0.11$. This elasticity converts the *percentage point* decrease in the number of insured into a *percentage* decrease in the number of insured for every 1-percent increase in premiums. Because each of these studies reported results for the large-group, small-group, and individual insurance markets combined, CHBRP employs the simplifying assumption that the elasticity is the same across different types of markets.

Based on these more recent studies, CHBRP will assume an average price elasticity of demand for private health insurance of -0.11 (i.e., a 10-percent increase in premiums produces a 1.1 percent decrease in the number of insured) for analyses conducted in the 2007 legislative session and going forward. This figure is based on the simple average of the elasticities calculated from the three studies cited above, using the high estimate from the Chernew et al. (2005) study.

Hadley (2006) also provides data showing 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). Therefore, where possible, CHBRP will provide separate estimates of the number of low-income individuals and high-income individuals who become uninsured in response to premium increases, and will employ the elasticities from Hadley's study for low-income individuals and high-income individuals. Estimates on the income distribution within the large-group, small-group, and individual insurance markets will be obtained from the California Health Interview Survey (CHIS) data.

Because of the difficulty in estimating the independent effect of premium increases on the number of insured, CHBRP has established a minimum threshold increase of 1.0 percent in PMPM premiums before it will produce estimates of a proposed mandate's impact on the number of uninsured. When a proposed mandate has an impact of greater than 1 percent on PMPM commercial insurance premiums – including an impact of greater than 1 percent for an identifiable subgroup of the insured, even if the overall impact on PMPM premiums is less than 1 percent – CHBRP will employ the following simplifying assumption. Using the average price elasticity of demand of -0.11 described above, CHBRP assumes that for each 1-percent increase in PMPM premiums, the number of insured individuals who will drop coverage will be 0.11 percent (.0011) multiplied by the number of insured individuals facing the premium increase. For example, if CHBRP determines that 200,000 individuals face a potential 20-percent premium increase resulting from a proposed mandate, the number of insured would decrease by 4,400 (.0011 x 20 x 200,000). Note that this example does not account for possible difference in premium increases or in the distribution of income levels across the three types of markets (large group, small group, and individual).

Because of the absence of reliable estimates of price elasticity of demand for both family and single insurance coverage in the non-group market, CHBRP employs the same price elasticity estimate for the group and non-group market

When an analysis of a proposed mandate indicates that premiums will exceed the minimum threshold to produce an impact on the number of uninsured, CHBRP will estimate the proportion of those individuals who would drop their group or non-group coverage who would then become eligible for Medi-Cal benefits or other public programs. CHBRP will calculate this based on the data from the California Health Interview Survey (CHIS) and will employ an algorithm, developed at the UCLA Center for Health Policy Research (CHPR), to determine Medi-Cal and Healthy Families eligibility among individuals in CHIS who would be expected to drop their insurance in response to premium increases exceeding 1.0 percent. This algorithm will provide estimates on the proportion of the newly uninsured population that would meet eligibility requirements for Medi-Cal and Healthy Families, based on family income, age, family structure, and other relevant eligibility criteria for eligibility.

The newly uninsured population will be identified in CHIS based on population characteristics determined by the specific mandate being analyzed. For example, if a mandate that applied only to the non-group insurance market, and CHBRP's analysis determined that the impact on insurance premiums was limited to those in the 19-29 age category, CHBRP would conduct the following analyses. First, CHBRP would use CHIS data to identify 19-29 year olds with insurance in the non-group market. Then, CHBRP would use the UCLA algorithm to determine what portion of those 19-29 year olds in the non-group market would be eligible for public insurance if they dropped their private insurance. CHBRP would then apply this proportion to the number of newly uninsured estimated using the method described earlier. Finally, CHBRP would estimate the number of individuals who are likely to enroll in public programs by multiplying the proportion who would be eligible by the proportion of current eligibles who are currently enrolled.

Examples from CHBRP Reports

Two examples of how CHBRP has applied these criteria in previous reports, using the Lewin price elasticity of demand estimate of -0.34 for evaluating the impact of benefit mandates on the number of uninsured are included below.

From SB 897 (Maternity-I) Analysis

“Premium increases of the magnitude discussed previously for those without maternity coverage (presently 12% of the individual market, or 192,000 people) may lead people to drop their coverage. Using a model that predicts the size of this effect, it is estimated that 4.3% of the individually-insured may drop their insurance coverage if premiums rise by 13% (Lewin Group 2002). This is a lower-bound estimate because Californians aged 25-39 years in the individual market are slightly more likely to have incomes less than or equal to 200% of the Federal poverty level, thus they are slightly more likely to become uninsured (CHIS 2003). Based on our previous estimate of about 192,000 individuals without maternity benefits in the individual market, and our assumption above that 23% of these individuals fall within the 25-39 age category, the mandate could increase the number of uninsured by as many as 1,900 ($192,000 \times 0.23 \times 0.043$).

From AB 2281 (High Deductible Health Plans) Analysis

“When estimating the premiums and cost impacts, CHBRP assumes that the number of insured in each market segment remains stable. However, we consider the secondary impact of increases in premiums on the number of insured dropping coverage when premium increases exceed 1%. For most market segments, no measurable change in the number of uninsured is projected to occur as result of AB 2281 because *on average*, premiums are not estimated to increase by more than 1%. However, some subgroups within the individual insurance market who have purchased low-cost policies (e.g., young adults, low-income self-employed) may experience premium increases greater than 1%. CHBRP is unable to provide more detailed estimates of these impacts within the individual market due to a lack of sufficient data on subgroups within the individual insurance market.”

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