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POLICY DEBATE

Modeling the Impact of the Affordable Care Act and the Individual Mandate on Californians

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Abstract The Patient Protection and Affordable Care Act (ACA) was designed to provide health insurance to uninsured or underinsured individuals. We used the California Simulation of Insurance Markets (CalSIM) model to predict the experience of consumers in California, who will be faced with new insurance options through Medicaid, employer-sponsored insurance, and the individual market in 2014 and beyond. We explored the response and characteristics of Californians who will and will not secure insurance coverage, with and without the "individual mandate" or minimum coverage requirement (MCR). We found 1.8 million Californians (38 %) of the 4.7 million eligible uninsured will secure coverage by 2019 with the MCR, while only 839,000 (18 % of the eligible uninsured) would obtain coverage without it.

Keywords Health Insurance · Health Reform · Insurance Markets · Micro-Simulation · Modeling

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Introduction

The Patient Protection and Affordable Care Act (ACA) of 2010 was designed to improve health insurance coverage for all Americans, with a focus on increasing affordability and consumer protections, while also covering a substantial portion of the nearly 50 million uninsured individuals in the United States (DeNavas-Walt et al. 2011; O'Neil 2010). There were four key provisions of the law designed to achieve this goal: (1) the requirement for all insurance companies to sell insurance to any person, regardless of their underlying health risks or pre-existing conditions, (2) the creation of a minimum coverage requirement (MCR) for most legal residents of the United States to obtain creditable insurance coverage, (3) the creation of state-based health insurance marketplaces (or Exchanges) to allow people to purchase affordable, standardized health insurance coverage with tax subsidies based on their income, and (4) the expansion of Medicaid in all fifty states and the District of Columbia to provide low-cost insurance coverage to low-income individuals and families earning up to 133 % of the Federal Poverty Level (FPL) (Patient Protection and Affordable Care Act 2010).

In June of 2012, the US Supreme Court settled several lawsuits regarding implementation of the ACA, specifically related to the requirement for most legal residents to obtain and keep creditable insurance coverage and for states to implement the required Medicaid expansion. The Court

ruled that the ACA allows the federal government under its constitutional taxing authority to require residents to comply with the MCR by obtaining insurance coverage or paying a penalty starting in 2014. Secondly, the Court ruled that the requirement for states to participate in Medicaid was not within the federal government's powers, meaning that states could decide not to participate in the Medicaid expansion required by the ACA without the federal government removing funding for their existing state Medicaid programs (Rosenbaum and Westmoreland 2012). These two provisions of the law, which have been in dispute since its passage in March of 2010, have significant impacts on state budgets, coverage options available for residents of different states, and health insurance availability for the currently uninsured or underinsured across the US. Even after the ruling, opponents of the ACA support repealing the law in its entirety or altering specific provisions, like the MCR, via the federal budget process or future legislation (US House of Representatives Budget Committee 2012). The recent re-election of President Obama and a Democratic majority in the Senate make it more difficult for a national repeal effort. However, several states have expressed an unwillingness to expand their Medicaid programs or create health insurance Exchanges. In states without Medicaid expansions up to 133 % of FPL, qualified residents earning 100 % of FPL or more could take advantage of tax subsidies to purchase health insurance through a state or federally operated Exchange. However, those earning less than 100 % of FPL will not qualify for Exchange subsidies and will remain uninsured if they do not have other coverage options.

The Need for Modeling the Affordable Care Act

The ACA is a complex law designed to address complex problems and market failures in the US health care system. As stated above, states can decide not to implement a Medicaid expansion for their low-income residents, just as employers can independently determine whether they want to offer insurance coverage to their employees or pay a penalty, and their employees can decide whether or not to enroll in the various coverage options based on their own health risks and economic situation. This mix of dynamic choices in the US health care system makes it difficult to quickly understand the various externalities and benefits of the law.

Literature Review

To address the difficulty of modeling health policy changes with multiple distinct components and differential responses from stakeholders, several national and state-focused micro-simulation modeling efforts developed over the past few years. These micro-simulation models attempted to reconcile the variety of inputs and choices resulting from new employer requirements, public programs, and coverage options that will determine the response by individuals in the health care system to the new law (Auerbach et al. 2011; Buettgens and Hall 2011; Jacobs et al. 2012; Long and Gruber 2011; Sheils and Haught 2011). The US Congressional Budget Office (CBO) and Treasury Department have long used micro-simulation modeling to assess the impact of legislative proposals on the federal budget and tax receipts (Abraham 2012; US Congressional Budget Office 2010a).

Typically, micro-simulation models were designed to predict individual decisions in response to a policy choice, so that policymakers and stakeholders could understand the aggregate effect of a policy over time. It was helpful in understanding the overall cost of a policy, as well as the number of people it will affect (Abraham 2012). In the case of a law like the ACA, it was important to understand how employers, workers, low-income individuals without insurance, and other consumers would react to specific provisions in the law in different ways. Due to the way in which the law was structured, each individual in the country will not have the same options available when it comes to obtaining insurance. For example, an undocumented person living in the US will not be allowed to sign up for Medicaid or the Exchange to get coverage (Jerome-D'Emilia and Suplee 2012). Though they could purchase individual market coverage outside of the Exchange with no premium tax subsidies, just as they can now. On the other hand, an uninsured US citizen individual earning between 100 and 400 % of FPL could purchase health insurance through the Exchange with tax subsidies if his/her employer did not offer him/her affordable coverage. The variation in employer response, individual work status, family status, income, citizenship status, and state decisions to voluntarily expand Medicaid in 2014 required advanced micro-simulation methods to develop decision-making prediction processes for firms, their workers, family members, and unemployed or self-employed individuals (Gruber 2011a; US Congressional Budget Office 2010a).

Several micro-simulation models were used during the passage of the ACA to predict enrollment, costs, and compare different policy proposals. Estimates from the three main national models varied from 55.7 to 62.4 % in terms of the reduction in the uninsured. The CBO model estimated 32 million of the expected 55 million uninsured individuals (58.2 %) in the US by 2019 would obtain health insurance due to the ACA (US Congressional Budget Office 2010a). However, the Lewin Group and Urban Institute models did not estimate the impact in 2019. Instead, they attempted to predict the reduction in the number of uninsured if the law were enacted immediately. The Urban Institute estimated that 27.8 million (55.7 %) of

the 49.9 million uninsured people in 2010 would obtain insurance coverage (Buettgens et al. 2010), while the Lewin Group (2010) estimated that 30.7 million (62.4 %) of the 49.2 million uninsured in 2011 would obtain coverage due to the ACA.

Most of the major micro-simulation models attempt to predict employer behavior by creating synthetic firms made up of individual workers, whose underlying health care spending, risks, age, gender, race/ethnicity, and other characteristics drive health insurance enrollment and purchasing decisions. While the overall rates of reduction in the uninsured and shifts in coverage only differ slightly it is still difficult to compare the different micro-simulation models due to varied prediction years and categories of insurance status used in each. In addition, because implementation of the ACA is dependent on existing state programs and future decisions to expand Medicaid and create Exchanges, the national models may be less useful in assessing impacts of the ACA at the state level (Buettgens et al. 2011; Rosenbaum and Westmoreland 2012). A recent Urban Institute study attempted to show the state-by-state impact of the decision to expand Medicaid or not using their model. However, they were forced to use uniform assumptions across all states related to uncompensated care shifts and some population characteristics to estimate the level of spending and insurance coverage state-by-state with and without the Medicaid expansion (Holahan et al. 2012).

California currently has a more generous Medicaid eligibility threshold when compared to other states (Rosenbaum 2009), but also has a much higher rate of limited English proficient residents (Migration Policy Institute 2011) and undocumented workers (Passel and Cohn 2010). In the case of planning for implementation in California, policymakers cannot simply apply the reductions in the uninsured and estimates of Medicaid or Exchange coverage from national models to the California population. CalSIM was designed to simulate policy impacts on California's insurance markets. The state's diverse population and unique state policy decisions, such as creating the "Bridge to Reform" waiver in 2010 to expand Medicaid early (Meng et al. 2012), justified construction of a California-specific model rather than applying ad hoc adjustments to national simulations.

Predicting the Impact of the ACA in California

The analysis presented here focused on implementation of the coverage expansions included in the ACA in California, where the legislature and governor have been active in enacting legislation, implementing provisions of the law, and aligning the Medicaid program (Medi-Cal) with the new health insurance Exchange (Covered California). In other states, the executive and legislative branches may be at odds around how to react to the ACA and the Supreme Court decision. State-specific modeling efforts may be helpful in planning for those situations, especially if the federal government appears to be flexible in interpreting subsidy eligibility in those states not expanding Medicaid or in allowing states to implement "partial" expansions of Medicaid for the childless adult population with full or partial federal matching funds. This analysis did not attempt to measure the overall impact of the ACA on health care spending or the federal budget, but modeled the impact of implementing the following elements of the ACA on health insurance coverage in California:

(A) The requirement that all employers with fifty or more full-time equivalent employees who do not offer coverage to employees and have at least one employee receiving subsidies in the Exchange are subject to an annual penalty of $2,000 per full-time (30 hours per week) employee excluding the first thirty employees. Firms that offer coverage are subject to an annual penalty of $3,000 per full-time employee who receives subsidies in the Exchange due to lack of affordability (defined as single premium employee contribution of more than 9.5 % of income) or ineligibility for their employer's plan.

(B) The creation of the Covered California Exchange that allows legal resident consumers to purchase guaranteed issue, modified community rated, subsidized[1] insurance coverage with limited premium variation and prices determined only by age, family size, and location.[2]

(C) The minimum coverage requirement (MCR) that all legal residents meeting specific criteria must purchase or otherwise obtain creditable insurance coverage or face a penalty that will rise by 2016 to the greater of $695 per person (up to a maximum of

[1] Premium subsidies to purchase health insurance in the Exchange are available to legal residents of the US with household incomes from 100 % to 400% of FPL who are not otherwise eligible for Medicaid. The subsidies are provided in the form of advance premium tax credits (APTC) on a sliding scale based on the second-lowest premium of a silver-rated (70 % actuarial value) plan. The subsidies effectively cap out-of-pocket premiums to a percentage of each household's income (2 % for households earning 100–133 % of FPL, 3 % for families earning above 133–150 % of FPL, up to 9.5 % for households earning 400 % of FPL).

[2] The federal law requires that all individual and small group insurance premiums sold in the Exchange or outside of the Exchange must abide by the same premium rating rules. The only variation allowed will be based on age (3:1 ratio within the same plan), smoking status, location, and family size (1.5:1 ratios). In California, smoking status will not be allowed as a premium rating factor.

$2,085 per family) or 2.5 % of their Modified Adjusted Gross Income (MAGI).

(D) The expansion of Medi-Cal to include legal residents living in the US for five years or more and US citizens who earn up to 133 % of FPL based on Modified Adjusted Gross Income (MAGI) after a 5 % income disregard (equivalent to 138 % of FPL).

These are the four fundamental components of the law to which employers, insurers, families, and individuals must react. Many people will be able to easily comply with the requirement to purchase insurance because their employers will continue offering insurance coverage through their jobs. Others, who are unable to purchase or afford employer-sponsored insurance (ESI) could decide to shop for coverage on the Exchange or sign up for Medi-Cal, depending on their household incomes. Because employer decisions and insurance premiums are not static, the CalSIM model allowed us to explore the actual responses to these reforms based on assumptions from the literature on labor economics and health services research. Detail is provided in the methods section and in the CalSIM version 1.8 *Assumptions and Methodology* document available at http://www.healthpolicy.ucla.edu/pubs/files/calsim_methods.pdf.

Methods

Data Sources

CalSIM version 1.8 was constructed using four publicly available data sets: the 2004–2008 Medical Expenditure Panel Survey Household Component (MEPS-HC), the 2009 California Health Interview Survey (CHIS), the 2010 California subset of the Employer Health Benefits Survey (CEHBS), and the 2005–2009 American Community Survey (ACS). CalSIM used one data source that is not publicly available, provided by the California Employment Development Department (EDD) in 2007, detailing the relationship (joint distribution) of wage distribution, employer sponsored insurance (ESI) offering status, and firm size among California firms. All of the major national micro-simulation models use similar data sources for individuals, firm characteristics and workforce information, and insurance offerings at the employer level. For example, the Lewin Group's Health Benefit Simulation Model also uses the MEPS-HC as their population dataset, while the CBO and RAND use the Survey of Income and Program Participation (SIPP) and Dr. Gruber's GMSIM and the Urban Institute use the Current Population Survey (CPS) (Abraham 2012).

The core data set in CalSIM was the MEPS-HC, which was collected by the Agency for Healthcare Research and Quality using the same sampling frame as the National Health Interview Survey (NHIS). MEPS-HC included validated questions on health care coverage, utilization, out-of-pocket and third party spending on health care services, and offer of ESI. When combined with NHIS information on self-reported health status, chronic illness, income, and age, it provided the best available tool for understanding the choices made by families regarding their health insurance coverage and use of services. MEPS-HC uses two-year interview panels and typically contains between 12,000 and 13,000 family respondents (including single individuals living in one household, as well as multiple families living within the same household) composed of 29,000–35,000 individuals each year. CalSIM pooled data from the 2004 through 2008 MEPS-HC for a total of 158,266 individuals nested in 62,570 families (AHRQ 2012). The response rate for the full-year household survey in each of the years ranged from 59.3 % in 2008 to 64.7 % in 2004. More information on the questionnaire, sample, and data are available at http://meps.ahrq.gov/mepsweb/survey_comp/household.jsp.

To model the California population, the nationally representative MEPS-HC data was re-weighted to the marginal distributions of demographic, income, employment and health variables from CHIS, CEHBS, and ACS using an iterative raking procedure.[3] CHIS 2009 provided distributions for the following variables: age, health coverage source, gender, English proficiency, work status, firm type and size, ESI offer, citizenship, smoking status, self-reported health status, number of chronic conditions, and race/ethnicity. For income, we used the 2005–2009 ACS. We used 2009 estimates from the Immigration and Customs Enforcement of legal permanent residents in the US for less than five years (Rytina 2010), and estimates from the Pew Hispanic Center of undocumented residents (Passel and Cohn 2010). CHIS estimates were used for the number of private sector workers in the state, and the distribution of workers among six categories of employer size and access to health benefits was drawn from CEHBS (California HealthCare Foundation 2011).

[3] In raking, the sample weights for each classification are repeatedly adjusted such that the sum of the weights converges to total the marginal distributions. The CalSIM raking procedure adjusts the data to match the marginal and joint distributions of age, socioeconomic status, health status and presence of chronic conditions, race/ethnicity, language, and immigration status in 2009 CHIS. We adjust sample weights from MEPS using the Stata module *survwgt* described at http://faculty.virginia.edu/nwinter/progs/survwgt.hlp.shtml.

Modeling Process and Assumptions

Synthetic Firms and Coworkers

To model the availability and cost of employer-sponsored insurance (ESI) offers, firm characteristics from CEHBS and EDD were assigned to employed individuals (workers). Each worker was assigned an employer in CEHBS with the same firm size and health benefits offering status reported in MEPS using a weighted random draw with replacement in SAS 9.3. An estimated distribution of employee wages was supplied to each worker's employer from the 2007 EDD. Based upon these employer characteristics, CalSIM constructed a synthetic firm for each worker. Firm size, offer status, and wage distribution were used to populate each synthetic firm with synthetic coworkers, who were duplicates of workers sampled with replacement from the MEPS-HC. The characteristics and behavior of these synthetic coworkers informed the behavior of the synthetic firm, which determined whether the worker would be offered benefits and the cost of any such coverage.

Wage, Population, and Premium Growth

Household income as reported in the MEPS-HC was inflated to 2009 using inflation rates from the Bureau of Labor Statistics' Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) and subsequently by 2.7 % annually, the average annual income growth rate from 1999 to 2009. We assumed the tax cuts passed in 2001 and 2003 would be extended with a 0.25 % increase in the top marginal tax rate. The non-elderly population of California was assumed to grow as projected by the US Census to 35,811,796 in 2019. Health insurance premiums were assumed to grow by 6.5 % each year for all markets.

Predicting Documentation Status

Documentation status is an important element in determining Medi-Cal and Exchange eligibility. The relatively large legal permanent resident and unauthorized (undocumented) immigrant populations in California necessitated incorporating documentation status into CalSIM. Since MEPS did not include documentation status, we predicted individual immigration status using parameter estimates from a multinomial logistic regression fit to 2009 CHIS confidential data with citizen/legal permanent resident for more than five years, legal permanent resident for five years or less, and undocumented immigrant as categories of the dependent variable (see CalSIM *Methods and Assumptions*, Sect. 4.5). By assigning a predicted immigration status to each MEPS respondent, CalSIM accounted for documentation status at the individual level prior to modeling firm and individual coverage decisions.

Firm Behavior

The decisions of synthetic firms determined the availability and cost of ESI offers to individuals. In modeling firm behavior, CalSIM assumed they would provide a constant level of compensation to their employees through a combination of wages and premium contributions. The offering status of each firm was based on the total cost of its employees obtaining coverage if the firm offered insurance compared to the cost if it did not offer. These costs included the impact of any relevant taxes and penalties and depended on the individual coverage decisions made by the firm's employees. For example, an employee who took up Medi-Cal rather than ESI contributed nothing to the cost of the firm to offer ESI. If the cost of one alternate choice was at least 10 % less than the other, firms would switch to this alternative. See CalSIM *Methods and Assumptions* Sect. 5.1 for more detail.

Individual Behavior

After determining firm offering decisions, CalSIM simulated the decisions of individuals and families as health insurance eligibility units (HIEUs) among their available health insurance options, which depend upon their eligibility for the Exchange, Medi-Cal, or any ESI offer(s). CalSIM used a sequential, cost-based approach that accounted for worker price elasticity of demand, the presence of one or more chronic conditions, potential individual penalties (modeled as a negative premium), and the cost of insurance premiums relative to household income. While a variety of factors informed individual take-up decisions, in general the probability an individual would choose coverage option A over option B was often driven by their relative costs via the relationship:

$$\text{Prob} = e \times \frac{\text{cost}_A - \text{cost}_B}{\text{cost}_B},$$

where e is positive and may depend on income, insurance premium, chronic illness, and other individual characteristics. See CalSIM *Methods and Assumptions* Sect. 5.2 for more detail.

Base Scenario

CalSIM allowed for policy impact to be simulated in the presence of different sets of assumptions regarding the decisions of individuals among their coverage options. The base scenario assumed that 61 % of those who were newly eligible for Medi-Cal and would be uninsured or on the

individual market without ACA would be enrolled in 2019, when individuals and employers were assumed to have fully adjusted to the new policy environment. Of the previously Medicaid eligible but not enrolled, 10 % of those who would be uninsured and none of those who would be on the individual market were assumed to enroll. This is in line with current Medi-Cal enrollment in the state (Sommers and Epstein 2010). Enrollment in the Exchange under the base scenario was determined by income, premiums, health status, and coverage history. Under the base scenario an additional effect on coverage take-up was applied for limited English proficient individuals (Alegría et al. 2006). These assumptions contrast with an enhanced scenario (not included) in which aggressive outreach and streamlined enrollment were assumed to cause higher rates of enrollment and negate any influence of limited English proficiency (Jacobs et al. 2012).

Removing the Minimum Coverage Requirement

To explore the hypothetical influence of the minimum coverage requirement (MCR) on the uninsured and other members of the insurance market, we used the same CalSIM version 1.8 base scenario, but removed the tax penalty of $695 per person or 2.5 % of household income for not carrying a creditable insurance product from the decision-making process. This increased the net premium cost for many individuals and families in the model. For example, if a single individual earning $80,000 per year had the option of purchasing insurance through the Exchange for $5,000 per year, after considering a 2.5 % of income ($2,000) penalty the net cost to the individual would be $3,000, because they would have paid that $2,000 as a penalty if they did not purchase insurance. In the version of the model without a penalty, the net cost of the premium would be $5,000. Making that change should reduce take-up of health insurance, especially among those who have no perceived need for it, like the young or people without any perceived health risks.

Findings

Coverage options available to US residents under the ACA vary depending on workers and their families, their employers' decisions to offer affordable coverage, and eligibility for Exchange subsidies or Medicaid coverage. The ACA does not specifically target the uninsured for new coverage options. The market reforms, new employer requirements, and Medicaid expansion are also likely to impact others who are currently insured. The US Congressional Budget Office (CBO), in scoring the ACA, estimated that of the 24 million individuals who would sign up for Exchange coverage by 2019 in the nation, only 16 million would have been previously uninsured. The additional eight million members would have previously had employer-sponsored insurance (ESI) (3 million) or individual market insurance coverage without subsidies (5 million) (US Congressional Budget Office 2010a).

Although the national implications of the insurance expansions, consumer protections, and premium subsidies of the ACA are important to understand, the CalSIM analysis allowed for a refined look at the individual and family response in California to full implementation of the ACA in 2019 with and without the relatively unpopular individual mandate (Kaiser Family Foundation 2012). A main component of these findings was the relatively limited reach of the individual mandate in encouraging individuals and families to purchase insurance coverage, due to the increased availability of affordable health insurance resulting from the significant changes made to the employer market, the individual market, and Medicaid by the ACA.

Shifts in Coverage Due to the ACA

Table 1 shows the changes in insurance coverage for the non-elderly (under age 65) in California in 2019 due to full implementation of the ACA. This includes the full phase-in of the Medicaid expansion for families earning 138 % of FPL or less (133 % of FPL plus an additional 5 % income disregard for eligibility determination), the full operation of the Covered California Exchange and provision of federal premium subsidies for eligible individuals, phase-in of minimum coverage requirement (MCR) penalties, and the 2018 implementation of the 40 % excise tax for employer plans that cost more than $10,200 for individuals or $27,500 for families. The "Without ACA (2019)" column of Table 1 provides the total number of Californians who would have each type of insurance in 2019 in the absence of the ACA. The final row, titled "With ACA 2019", shows the number of Californians who would have each type of insurance in 2019 with full implementation of the ACA.

In 2019, 5,791,000 non-elderly people would be uninsured at any point-in-time during the year without the ACA. With ACA implementation, 220,000 (3.8 %) of these were estimated to obtain new employer-sponsored insurance (ESI) coverage, while 591,000 (10.2 %) will enroll in Medi-Cal, mostly due to the expansion for low-income individuals up to 138 % of FPL. The bulk of the would-be uninsured who secure insurance coverage will do so through the Exchange, with 790,000 (13.6 %) obtaining insurance with premium subsidies (400 % of FPL or below), and another 514,000 (8.9 %) purchasing insurance without subsidies in either the Exchange or individual

Table 1 Shifts in insurance coverage due to Affordable Care Act, ages 0–64, California, 2019

Health insurance coverage without ACA	Without ACA (2019)	Employer-sponsored insurance (ESI)	Medicaid (Medi-Cal)	CHIP (Healthy Families)	Other public coverage	Subsidized Exchange	Unsubsidized Exchange/ individual market	Uninsured
Uninsured	5,791,000	220,000	591,000	43,000	–	790,000	514,000	3,633,000
Employer sponsored insurance—coverage maintained	18,790,000	18,725,000	34,000	–	–	29,000	2,000	–
Employer sponsored insurance—coverage dropped	989,000	73,000	29,000	–	–	326,000	327,000	233,000
Medicaid (Medi-Cal)	5,895,000	–	5,895,000	–	–	–	–	–
CHIP (Healthy Families)	802,000	–	326,000	476,000	–	–	–	–
Individual market	2,285,000	53,000	202,000	103,000	–	553,000	1,228,000	145,000
Other public coverage	1,261,000	–	–	–	1,261,000	–	–	–
With ACA (2019)	35,813,000	19,071,000	7,077,000	622,000	1,261,000	1,698,000	2,073,000	4,011,000

Source CalSIM Version 1.8, Base Scenario

To interpret this table, think about the "Without ACA" column as the state of insurance coverage if the ACA was never enacted. You can then trace from the left to right to understand where people would secure insurance coverage if the ACA did exist, in comparison to where they would have been without the law. For example, of the 5,791,000 uninsured individuals without the ACA, 591,000 became eligible for and enrolled in Medicaid due to implementation of the law. However, other groups who were insured through ESI (34,000 whose ESI coverage was maintained and 29,000 whose ESI coverage was dropped) also enrolled in Medicaid. The bottom row shows the final status of the California population after ACA implementation in 2019

market. Surprisingly, 3,633,000 (62.7 %) of the 5,791,000 who would be uninsured without the ACA were also uninsured with ACA implementation, despite the prospect of paying the MCR penalty. This 37 % reduction in the uninsured is lower than predicted in national models, partially due to the higher rate of undocumented, uninsured workers in California and lower rates of employer offer of insurance coverage in the state (Passel and Cohn 2010; Kaiser Family Foundation and Health Research & Educational Trust 2012).

Without the ACA in 2019, nearly 20 million non-elderly Californians would be insured through ESI. Under the ACA, employers will still remain the dominant health insurance purchaser in the health care system. Full implementation of ACA would result in a net decrease of 3.6 % in ESI, down to 19,071,000 from 19,779,000 (18,790,000 with ESI coverage maintained, plus 989,000 who will be dropped from ESI after ACA) (Table 1). Most of these individuals, 18,725,000 (98.2 %), would have had ESI without ACA. Of the remaining 346,000 individuals newly covered by ESI due to the ACA, 220,000 would have been uninsured, 53,000 would have been in the individual market, and 73,000 of them had ESI themselves and will now receive it from another source in their household, e.g., through a spouse or parents' employer. The majority of the 989,000 for whom ESI coverage was dropped was predicted to take-up coverage in the Exchange or individual market, (326,000 with subsidies and 327,000 without). Another 29,000 of the previous ESI enrollees would enroll in Medi-Cal, leaving 233,000 individuals (1.1 %) uninsured who would have had ESI in 2019 without the ACA.

The expansion of Medi-Cal by ACA will increase the number of non-elderly Californians on Medi-Cal by 1,182,000 (20 %) from 5,895,000 to 7,077,000 in 2019. Half (591,000) of these 1,182,000 would be uninsured without the ACA's expansion of Medicaid to childless adults earning 138 % of FPL, while 326,000 (27.6 %) would have kept their Healthy Families (i.e., Children's Health Insurance Program)[4] coverage, 202,000 (17.1 %) would have had individual coverage, and only 63,000 (5.3 %) would have had ESI (34,000 working in employers where ESI was maintained, plus 29,000 from employers who dropped ESI). The very small proportion of future Medi-Cal beneficiaries with an option to purchase individual insurance or ESI was indicative of the lack of affordable products for the very low-income, even with the ACA in effect.

The availability and standardization of affordable individual coverage and income-based subsidies through the Exchange will result in the vast majority (93.7 %) of the

[4] In 2013, the Healthy Families Program will be transitioned into Medi-Cal Managed Care plans, meaning that low-income children aged 0–18 will technically be enrolled in Medi-Cal rather than Healthy Families. However, the differences in federal matching funds, cost-sharing requirements, and the federal Children's Health Insurance Program's status as an authorized discretionary program rather than a mandatory entitlement like Medicaid make it necessary to continue to differentiate the populations and numbers enrolled in each.

Table 2 Impact of minimum coverage requirement (MCR) on uninsured, ages 0–64, California, 2019

Insurance status	Without ACA	ACA with MCR	ACA without MCR
Individual market or unsubsidized exchange	2,285,000	2,073,000	1,614,000
Subsidized exchange	0	1,698,000	1,331,000
Total individual market and exchange	2,285,000	3,771,000	2,946,000
Uninsured (excluding undocumented)	4,732,000	2,937,000	3,893,000
Reduction in uninsured, relative to No ACA		1,795,000	839,000
Percent reduction in uninsured, relative to No ACA		38 %	18 %
Reduction in insured, relative to ACA with MCR			956,000
Percent reduction in insured, relative to ACA with MCR			53 %

Source CalSIM Version 1.8, Base Scenario

2,285,000 non-elderly Californians who would be insured through the individual market without the ACA continuing to receive coverage through various options. This includes 553,000 (24.2 %) in the Exchange with subsidies, and 1,228,000 (53.7 %) enrolled in the Exchange without subsidies or on the individual market. Another 202,000 (8.8 %) would enroll in Medi-Cal, most of whom would not be eligible without the ACA's Medicaid expansion. Only 53,000 (2.3 %) would move into ESI, while 103,000 (4.5 %) will join the Healthy Families program for individuals aged 0 through 18 with a family income between 133 and 250 % of FPL. The rest, 145,000 (6.3 %), will be uninsured. This uninsured group who would have individual coverage without the ACA represents a relatively young and healthy segment of the population whose individual premiums are likely to increase with the advent of the modified community rated premiums of the ACA, which reduce premium price variation by age group using a 3:1 ratio.

Impact of the Minimum Coverage Requirement

Table 2 compares insurance rates for eligible individuals with and without the MCR. With the MCR the ACA will reduce the number of eligible (not undocumented) uninsured from 4,732,000 to 2,937,000, a decrease of 38 %. Without the MCR, the eligible uninsured are reduced to only 3,893,000, a decrease of 18 %. The nearly one million fewer insured was primarily due to reduced enrollment in the Exchange and individual market without the disincentive of paying the MCR penalty. The 3,771,000 non-elderly Californians predicted to have such coverage with the MCR were reduced by 830,000 (22 %) to 2,946,000. Overall, the removal of the MCR resulted in fewer people obtaining insurance, despite the availability of federal subsidies and Medicaid coverage. The 1,795,000 person increase in the number of insured, non-elderly Californians caused by ACA was cut by more than half (53.3 %) to 839,000 without the MCR. Most of the decrease occurred in the individual insurance market, with 367,000 (21.6 %) of those who would have purchased coverage in the subsidized Exchange staying uninsured. However, the highest magnitude change occurred in the remaining individual market where there are no subsidies, with 459,000 (22.1 %) people who would have purchased insurance in the individual market with the mandate, choosing to stay uninsured or take up other coverage options. While the ACA reduced the uninsured population by 38 % via Medicaid expansion, Exchange creation and subsidies, and the MCR, only 18 % stayed insured when the MCR was removed (Table 2). The 53 % reduction in insurance coverage predicted by removing the MCR is similar to other micro-simulation estimates at the national level. Jonathan Gruber estimated at least a 50 % reduction without additional policy intervention to replace the MCR (Gruber 2011b), while the CBO predicted 16 million fewer people would obtain coverage (50 % of their original estimate when the law was enacted) (US Congressional Budget Office 2010b). The Lewin Group estimated a smaller reduction of 25.3 % nationally and asserted that the premium subsidies and Medicaid expansion would still increase insurance coverage substantially, even without the mandate (Sheils and Haught 2011).

In Table 3, we explore the characteristics of those who were covered with the MCR but opted out when the MCR did not exist. Importantly, the group of people who were newly insured with the MCR were younger, healthier, and higher-income than those who would be newly insured in the absence of the MCR. Forty percent of the 2,157,000 newly insured with MCR would be under age 30, compared to 30 % of the 1,209,000 newly insured without MCR (Table 3). In addition, 25 % of the newly insured with the MCR would have one or more chronic conditions, and 22 % would have fair or poor self-reported health status compared to 30 % with chronic illnesses and 29 % with fair or poor health status among the smaller insured population without the MCR. The percentage of newly insured with income 200 % of FPL or greater also declines, with

Table 3 Characteristics of newly insured and remaining uninsured with and without minimum coverage requirement (MCR), ages 0–64, California, 2019

	Newly insured: ACA with MCR		Newly insured: ACA without MCR		Uninsured with MCR		Additional uninsured without MCR	
	N	%	*N*	%	*N*	%	*N*	%
Total	2,157,000		1,209,000		4,011,000		998,000	
Sex								
Male	1,095,000	51	576,000	48	2,057,000	51	543,000	54
Female	1,062,000	49	633,000	52	1,953,000	49	454,000	46
Age								
0–18	198,000	9	69,000	6	602,000	15	147,000	15
19–29	674,000	31	286,000	24	1,020,000	25	395,000	40
30–44	605,000	28	386,000	32	1,394,000	35	233,000	23
45–64	680,000	32	469,000	39	995,000	25	222,000	22
Race/ethnicity								
Latino	1,207,000	56	691,000	57	2,657,000	66	530,000	53
Asian	208,000	10	97,000	8	454,000	11	117,000	12
Black	110,000	5	70,000	6	114,000	3	43,000	4
White	581,000	27	319,000	26	727,000	18	287,000	29
Other	52,000	2	33,000	3	59,000	1	20,000	2
Family type								
Single	941,000	44	501,000	41	1,364,000	34	452,000	45
Two adults	384,000	18	249,000	21	512,000	13	142,000	14
Family with kids	832,000	39	459,000	38	2,136,000	53	404,000	41
Chronic conditions								
No chronic conditions	1,610,000	75	852,000	70	3,563,000	89	797,000	80
1 + chronic conditions	548,000	25	357,000	30	448,000	11	200,000	20
Income								
100 % FPL or less	398,000	18	348,000	29	1,295,000	32	55,000	5
101–138 % FPL	360,000	17	320,000	26	420,000	10	45,000	5
139–200 % FPL	469,000	22	237,000	20	557,000	14	238,000	24
201–250 % FPL	258,000	12	109,000	9	371,000	9	156,000	16
251–400 % FPL	348,000	16	132,000	11	583,000	15	226,000	23
More than 400 % FPL	324,000	15	63,000	5	784,000	20	278,000	28
Employment status								
Not employed	928,000	43	538,000	45	1,790,000	45	410,000	41
Employed	1,230,000	57	671,000	55	2,221,000	55	588,000	59
Self-reported health status								
Good, very good or excellent	1,677,000	78	861,000	71	3,405,000	85	863,000	87
Fair or poor	480,000	22	348,000	29	605,000	15	135,000	13
Source of insurance								
Employer-sponsored insurance	220,000	10	92,000	8	0	0	128,000	13
Medicaid (Medi-Cal)/CHIP (Healthy Families)	634,000	29	588,000	49	0	0	45,000	5
Other public	0	0	0	0	0	0	0	0
Subsidized exchange	790,000	37	428,000	35	0	0	361,000	36
Unsubsidized exchange/individual market	514,000	24	101,000	8	0	0	414,000	41

Source CalSIM version 1.8, Base Scenario

43 % of the market being higher income with the MCR, compared to 25 % without it. This finding illustrates the importance of the premium subsidies for lower-income families in making insurance premiums more affordable than the MCR penalty. Consistent with their lower income, nearly half of the newly insured without MCR were

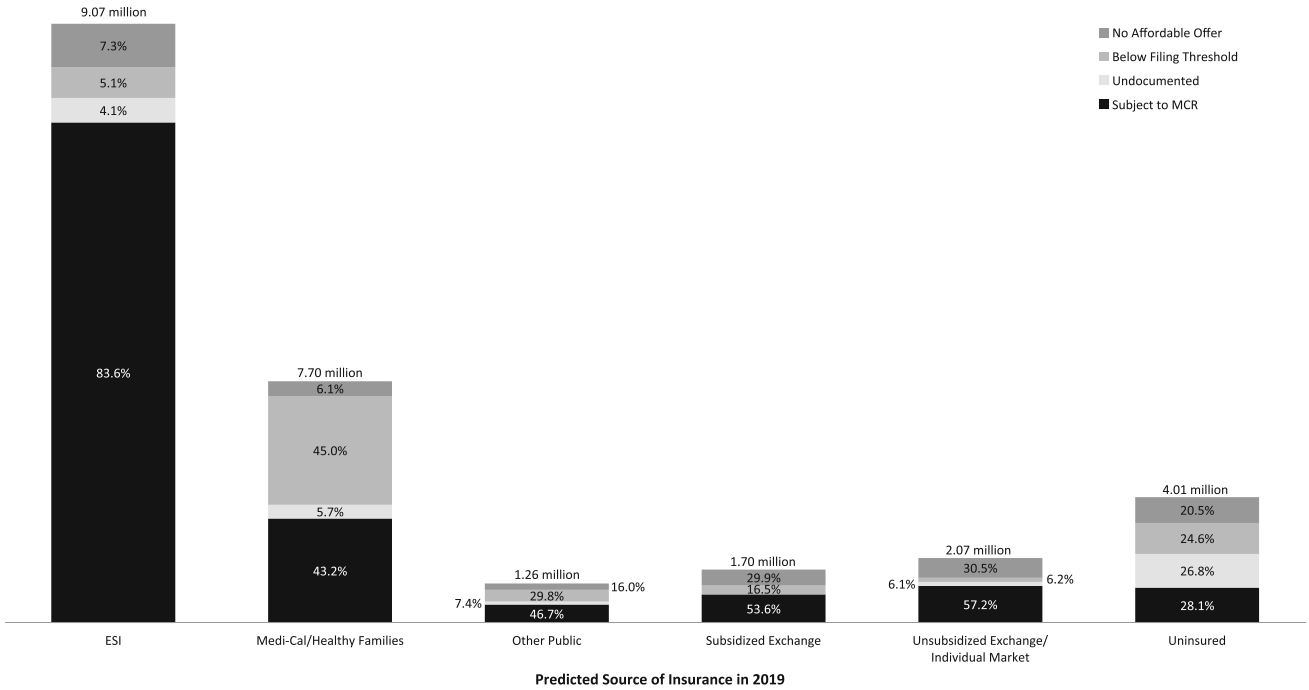

Fig. 1 Scope of minimum coverage requirement if uninsured, ages 0–64, California, 2019 ($N = 35{,}812{,}000$)

enrolled in Medi-Cal or Healthy Families, while those two programs accounted for only 29 % of the newly insured with MCR. In contrast, the share of newly enrolled in the Exchange without subsidies or individual market is 24 % with the MCR, but only 8 % without MCR. These differences indicate that the Medi-Cal eligible population is less sensitive to the MCR penalty than the Exchange eligible population, and particularly those not eligible for subsidies.

Other small differences in the newly insured populations due to the MCR included females and the unemployed making up slightly larger shares of the newly uninsured without MCR (52 % up from 49 % and 45 % up from 43 %, respectively). A slightly smaller percentage of people belonged to single households without MCR (41 % down from 44 %) due to the relatively older age of those newly insured without MCR. The racial/ethnic background of the newly insured would remain relatively unchanged with and without the MCR.

Table 3 also allows for comparison of the characteristics of the predicted non-elderly, uninsured population with those who elect to forego insurance when not faced with the MCR penalty, but would have been insured with the penalty. These additional uninsured without MCR are younger and higher income. Fifty-five percent of this additional group is under 30 years old, compared to only 40 % of the uninsured with MCR. They also tend to be higher income with only 34 % with incomes of 200 % of FPL or below, while 56 % of those uninsured with MCR have incomes of 200 % of FPL or below. Chronic conditions are more prevalent in the additional uninsured without MCR (20 %) than among the uninsured with MCR (11 %), but they report slightly better health status with 13 % reporting fair or poor compared to 15 % of the uninsured with MCR. The majority of the additional uninsured would have taken up in the Exchange or individual market with the MCR, 36 % with subsidies and 41 % without. Again, there was greater sensitivity for the Exchange-eligible population to the MCR penalty.

Who is Responsible for Paying the Penalty?

Only 28.1 % of the remaining uninsured in California will be subject to paying the minimum coverage requirement (MCR) penalty in 2019 (Fig. 1). It is important to note that a significant proportion of people who will continue to take-up employer-sponsored insurance (ESI) would have been subject to the MCR if they were uninsured (83.6 %). However, because they have affordable premiums offered to them via employers, they are not exposed to the policy intervention of the ACA except that their employers may be more likely to continue offering coverage to avoid penalties. Those who enroll in Medi-Cal or Healthy Families are even less likely to be subject to the MCR, with less than half (43.2 %) making enough household income to be subject to the MCR if they were uninsured. The Exchange with subsidies and the remaining individual market is the real target of the MCR – one can see that the majority of the participants would have been subject to the MCR if

they did not purchase coverage. In the subsidized Exchange, 16.5 % of the participants are actually below the filing threshold so they would not be subject to the MCR, but would be able to take advantage of significant premium subsidies. Of the 11.2 % who are estimated to remain uninsured, only 28.1 % are legal residents, earn more than the federal tax filing threshold, and are eligible for Medi-Cal, affordable Exchange subsidies, or affordable coverage through their employers. This represents 3.2 % of the entire non-elderly population in California. 1.06 million (26.8 %) of the remaining uninsured in California were undocumented immigrants, which means they cannot buy coverage with subsidies or sign up for Medi-Cal, but they are also not required to comply with the MCR.

While 68 % of the US population does not support the individual mandate as a concept (Kaiser Family Foundation 2012), only about 5 % nationally are expected to be subject to the penalties. Due to California's unique demographic characteristics, worker wage distribution, and firm behavior, it appears that even fewer Californians (3.2 %) will be at risk of paying the MCR penalty based on our estimates of insurance coverage in 2019.

Discussion and Conclusions

The findings indicate that the Affordable Care Act will have a significant impact on Californians, even without the minimum coverage requirement (MCR). While an 18 % reduction in the uninsured would be a notable achievement, the Supreme Court's decision to uphold the MCR under Congress's taxing authority will have a positive effect on insurance markets in terms of sustainability, risk mix, and larger enrollment. The ACA with MCR reduces the number of uninsured non-elderly Californians from 5.8 million to four million (a reduction of 38 %) (Table 1). In addition, once full implementation is achieved by 2019, it is predicted that only 1.1 million (3.2 % of non-elderly Californians or 28.1 % of the remaining uninsured) will opt to pay the individual penalty in 2019 rather than purchase coverage (Table 3). The other 71.9 % of the remaining uninsured will not be subject to the MCR due to their citizenship status or financial hardship.

The additional 948,000 (out of 2,157,000) people who will enroll in affordable coverage due to the MCR being in place tended to be younger, healthier, and higher income that those who would have enrolled in insurance even without the MCR's financial penalty in place. The risk mix of the health insurance market participants is a very important issue, as higher enrollment among a sicker, older population will drive up premiums for everyone in the market. Without the MCR in place, there was concern that adverse selection would occur and newly insured enrollees would use services more than those who opted out, therefore disrupting the market and forcing premiums to increase (Sheils and Haught 2011).

The findings underscore the importance of the MCR in drawing people into the insurance market in order to sustain an acceptable risk in the population, given the new reforms around guaranteed issue and modified community rated insurance markets. If insurers no longer have the ability to refuse to cover a person due to a pre-existing condition or offer a very high individual premium to mitigate their own financial risk, there are few options to make sure healthy people will purchase insurance and others will not wait to purchase insurance until they need to use health care. California and other states will likely use initial and annual open enrollment periods to reduce this threat. If the Supreme Court had removed the MCR from the law as a violation of federal authority, states could have attempted to create their own mandates to balance insurance markets, or potentially adopt open enrollment periods or other requirements to reduce adverse selection. However, the results of those policy attempts would have been unpredictable. Given the current tenor of the political debate around the MCR, it is still possible that Republican representatives could attempt to remove the MCR from the ACA or repeal the ACA altogether. However, it is highly unlikely to go any further due to the Democrats holding a Senate majority and the White House. It is still possible that efforts will be made through the federal budget process to weaken premium subsidies, Exchange implementation, or the MCR itself. These changes could have serious consequences for sustainability of insurance markets. In addition, states have the choice of not implementing a Medicaid expansion. In those states, the uninsured population up to 138 % of FPL will not have the same access to new coverage. If California officially expands Medi-Cal, about one-fifth of the newly insured will be getting their coverage through the program, and it is unlikely they would be able to afford coverage in the individual market or face the pressure to do so with or without an MCR. It is unclear exactly how the US Department of Health and Human Services will implement federally operated Exchanges for low-income populations in states that do not adopt the Medicaid expansions, but the ACA limits subsidies to people earning 100 % of FPL or more in household income who are not otherwise eligible for Medicaid. That decision would have serious impacts on the low-income (under 100 % of FPL) uninsured population in states that decide not to expand Medicaid.

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