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Consumer Response to a National Marketplace for Individual Health Insurance

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Abstract

The objective of this analysis is to simulate the difference between national and state-specific individual insurance markets on take-up of individual health insurance. This simulation analysis was completed in three steps. First, we reviewed the literature to characterize the state-specific individual insurance markets with respect to state regulations and to identify the effect of those regulations on health insurance premiums. Second, we used empirical data to develop premium estimates for the simulation that reflect case-mix as well as state-specific differences in health care markets. Third, we used a revised version of the 2005 Medical Expenditure Panel Survey (MEPS) to complete a set of simulations to identify the impact of three different scenarios for national market development. (National market estimates are based on the simulation model with competition among all 50 states and moderate impact assumptions.) We find evidence of a significant opportunity to reduce the number of uninsured under a proposal to allow the purchase of health insurance across state lines. The best scenario to reduce the uninsured, numerically, is competition among all 50 states with one clear winner. The most pragmatic scenario, with a good impact, is one winner in each regional market.

Introduction

The McCarran-Ferguson Act (15 U.S.C. §§ 1011–1015) was adopted in 1945 after extended controversy over the jurisdiction of state and federal governments in

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regulating the business of insurance. The principal objective of the Act was to establish the primacy of the states in regulating the insurance industry. The "purpose clause" of the Act states that regulation and taxation of the business of insurance by the states is in the public interest. As a result of McCarran-Ferguson, each health insurer must be licensed in each state in which it intends to sell insurance.

Today most large employers that offer health insurance are exempt from McCarran-Ferguson by virtue of another federal law, the Employee Retirement Income Security Act (ERISA), which states that self-insured firms, that is, those that provide insurance as an employee benefit without the assistance of a risk-bearing insurer, are not subject to state regulation. Only the individual (nongroup) and fully insured group markets, composed mostly of small- and medium-sized employers, are regulated by the states. States have approached the regulation of health insurance differently, which has led to extensive variation across states in the benefit designs and premiums charged by health insurers in these regulated markets.

Federal lawmakers are interested in changing the law that prohibits nongroup/individual health insurance from being sold across state lines. For example, Representative John Shadegg's (R-AZ) and Senator Jim DeMint's (R-SC) Health Care Choice Act of 2005 (H.R. 2355 and S.1015) would amend the Public Health Service Act to allow for interstate commerce in health insurance while preserving the states' primary responsibility for regulation of health insurance. More recently, the proposal for interstate commerce in health insurance was featured by Senator John McCain (R-AZ) in his 2008 presidential campaign, as well as by Senator Tom Coburn (R-OK) described as The Patients' Choice Act of 2009 (S.1099). Advocates of this reform argue that state-level mandates for providers, benefits, and coverage, as well as other types of regulations (e.g., guaranteed issue, community rating, and any willing provider status) lead to higher prices and that permitting national competition for such insurance has the potential to strengthen competition, reduce prices, and increase demand for individual health insurance policies.

The recent passage of sweeping health insurance reform in March 2010 has altered the policy landscape. With the passage of P.L 111–148 (The Patient Protection and Affordable Care Act), states can enter into compacts that could permit the sale of insurance across state lines through insurance exchanges that will be fully operational by 2014. However, the law does not permit interstate sales of insurance as directly as an exemption from McCarran-Ferguson or the bills previously introduced by Senators DeMint and Coburn as well as Representative Shadegg.

The objective of this analysis is to simulate the difference between national and state-specific individual insurance markets on take-up of individual health insurance. Though the analysis focuses on the individual insurance market, results are presented for both the individual and group markets because a national marketplace for individual insurance will affect the group market. By leading to premiums sufficiently lower than those in the group market, a national marketplace for individual insurance may encourage some employers to drop group coverage and employees in those firms to shop in the individual market.

SIMULATION METHODS

This simulation analysis was completed in three steps. First, we reviewed the literature to characterize the state-specific markets for individual insurance with respect to state regulations and to identify the estimated effects of those regulations on health insurance premiums. Second, using secondary data, we developed premium estimates for the simulation that reflect contract-level differences in age, gender, and preexisting conditions as well as state-specific differences in health care markets. Third, we used a customized version of the 2005 Medical Expenditure Panel Survey (MEPS), described in more detail below, to complete a set of simulations to identify the impact of three different scenarios for national market development. We briefly summarize these steps.

Step 1: Characterize the State-Specific Individual Insurance Markets

The first step in this simulation is to describe the regulatory environment of individual insurance in each state and the effect of those regulations on individual health insurance premiums. We used several secondary sources for this description, including Blue Cross/Blue Shield for state mandates, the Georgetown University Health Policy Institute for guaranteed issue and community rating, and Thomson-West's Netscan/Health Policy Tracking Service ("Major Health Care Policies, 50 State Profiles, 2003/2004") for any willing provider laws.

Next, using findings from the research literature, we identified estimates of the marginal cost of particular regulations, including mandates, guaranteed issue, community rating, and any willing provider laws.

- Mandates are state regulations that require insurers to cover particular services or providers. We opted to use the count of mandates in a state rather than trying to identify the separate cost of each mandate. This decision follows the majority of empirical studies, which typically use a count of state mandates.[1]
- Guaranteed issue laws require insurers to sell insurance to all potential customers regardless of health status or preexisting conditions. However, this does not necessarily bar insurers from including restrictions on coverage associated with preexisting conditions or from incorporating premium adjustments for preexisting conditions. Guaranteed issue provisions can be broad (applying to all products, all consumers, at all times) or narrow (applying to very specific populations or during specific open enrollment periods). Our coding rules focused on states that had fairly broad guaranteed issue provisions as a template for the national simulation.
- Community rating requires insurers to limit premium differences across individuals based on observable characteristics (e.g., age, gender, tobacco status). We coded a state as having community rating if it had "pure" (no premium differences are allowed) or "adjusted" community rating. We did not consider rating bands as part of this definition.

[1]We used a count of mandates in our simulation. While not ideal, that is what most of the literature provides to estimate the effect of mandates on premiums. We recognize that all mandates are not equivalent in their scope or impact. For example, in 2008, 13 states had a fairly expensive mandate such as guaranteed coverage for *in vitro* fertilization. In contrast, 17 states had mandates for newborn hearing screening, which is associated with lesser cost.

- Any willing provider (AWP) laws restrict insurers' ability to exclude providers from their networks. States vary considerably with respect to how narrowly or broadly they define such restrictions. For example, many states apply AWP laws to pharmacies only. We coded a state as having an AWP law only if it applied broadly to providers.[2]

We reviewed the literature to identify the impact of these state laws and regulations on health insurance premiums.[3] We used only studies of the individual insurance market, since this is the market in which we are interested. This ruled out studies that focus on the relationship between regulations and premiums in the small-group market (e.g., Simon, 2005).

We utilized estimates from the following four studies: Congdon, Kowalski, and Showalter (2008), Henderson et al. (2009), New (2006), and Hadley and Reschovsky (2003).[4] It should be noted that New has not been published in a peer-reviewed journal. We considered using estimates from only the peer-reviewed studies but found the methods of the other paper sufficiently rigorous to include in this analysis. Table 1 summarizes the key findings.

To make our analysis comprehensive, we used three summary measures of the regulatory effects: (1) the midpoint of the range[5] of the estimated effect of each regulation/mandate—our moderate estimate, (2) the minimum estimated effect, and (3) the maximum estimated effect. These effects are summarized in Table 2. State-specific variation in regulations and average single and family-coverage premiums in the individual market are shown in Table 3.

Regulations and mandates represent important differences across state-specific individual insurance markets, but there may be other factors as well.[6] We note three

[2]One concern is that the estimated effect of AWP laws on premiums is too large because such laws are picking up unobservable "chilling effects" on managed care entry. In defense of using the estimated AWP effect, suppose that AWP directly increases premiums because it forces health plans to take any willing provider, and that this indirectly increases health care costs by chilling managed care entry into the state. The estimated effect of managed care on premiums will include both of these routes to higher premiums.

[3]A copy of the literature review with complete references is available from the first author.

[4]Other studies have examined the effects of individual-market regulations on insurance coverage (e.g., Percy, 2000; Sloan and Conover, 1998; Zuckerman and Rajan, 1999). However, these studies did not have sufficient information to inform the modeling requirements of our analysis. In order to use them for our purposes, we would have needed to supplement them with estimates of the responsiveness of coverage to prices, that is, dPrice/dRegulation = (dCoverage/dRegulation)/(dCoverage/dPrice). The addition of a second level of uncertainty into our simulations is the drawback of this two-step approach.

[5]The midpoint is simply half-way between the minimum and maximum effects of the regulations.

[6]One factor might be that regulations reflect the "tastes" of the market and thus the association between regulations and premiums might not be causal. We relied on cross-sectional studies to inform our estimates. Multiyear estimates would have been preferred but are unavailable. Hadley and Reschovsky (2003), while using cross-sectional data, use a selection-correction approach to control for unmeasured personal attributes related to both insurance take-up and premiums.

TABLE 1
Summary of Studies of the Effects of Sate Regulations on Premiums in the Individual Health Insurance Market

Regulation/ Law	Congdon, Kowalski, and Showalter	Henderson et al.	New	Hadley and Reschovsky
Guaranteed issue	94–114% increase in premium in one state (NJ)	No effect	NA (not assessed)	No effect
Community rating	20–27% increase in premium	No effect	NA	15–34.6% increase in premium
Any willing provider	1.5–9% increase in premium	5–12% increase	NA	NA
Mandates	Each additional mandate increases premium 0.4–0.9%.	Used indicator variables for a very comprehensive set of mandates. Some increase and some decrease premium.	Each additional mandate raises the monthly premium by 75 cents, approximately 0.5%.	NA

TABLE 2
Minimum, Maximum, and Midpoint Estimates of the Effects of Regulations

Regulation	Minimum Increase	Midpoint Increase	Maximum Increase
Guaranteed issue	0	57%	114%
Community rating	0	17.3%	34.6%
Any willing provider	1.5%	6.75%	12%
Mandates	0.4% per mandate	0.65% per mandate	0.9% per mandate

in particular. First, variation exists across states with respect to mandates regarding look-back periods and coverage of preexisting conditions. This will particularly impact individuals with chronic illnesses in terms of their perceived value of coverage, premiums (potentially), and take-up. Although we have information on state regulations for look-back periods and preexisting conditions, we know of no peer-reviewed studies that model the effect of these regulations on premiums.

A second difference is premium taxes. For this simulation, we did not attempt to determine the effects of premium taxes on premiums in the nongroup market. Third, provider market structure and its resulting effect on insurers' network formation and payment rates likely differ by state. Premium variation may also reflect differences across states (and plans within states) regarding the size of the provider network and plan types. AWP laws may capture some of this variation, but the extent of provider market power and local variation in prices are also likely to be important premium drivers.

TABLE 3
State-Level Variation Premiums and Regulations

			State Regulation Presence (0/1)			
State	Average State Single 2008	Premium Family 2008	Community Rating	Any Willing Provider	Guaranteed Issue	Number of Mandates
AK	$3,435	$5,821	0	0	0	25
AL	$2,548	$4,545	0	0	0	15
AR	$1,440	$1,953	0	0	0	29
AZ	$2,440	$3,984	0	0	0	18
CA	$1,885	$3,972	0	0	0	40
CO	$2,198	$4,216	0	0	0	31
CT	$2,963	$5,660	0	0	0	37
DE	$1,220	$2,026	0	0	1	16
FL	$2,539	$4,882	0	0	1	38
GA	$2,910	$4,956	0	1	0	27
HI	$1,455	$2,678	0	0	1	18
IA	$1,965	$3,753	0	0	1	15
ID	$2,207	$3,788	0	1	1	6
IL	$2,591	$4,991	0	0	0	27
IN	$2,330	$2,505	0	1	0	24
KS	$2,260	$4,510	0	0	0	25
KY	$2,033	$4,442	0	1	0	23
LA	$2,858	$4,874	0	0	0	31
MA	$5,257	$10,126	1	0	1	33
MD	$3,279	$6,574	0	0	1	46
ME	$1,455	$2,678	1	0	1	33
MI	$1,926	$3,968	0	0	1	19
MN	$2,121	$4,141	0	0	0	34
MO	$2,299	$3,985	0	0	0	31
MS	$1,205	$4,721	0	0	0	20
MT	$2,418	$4,350	0	0	0	27
NC	$2,623	$4,467	0	0	1	34
ND	$2,420	$4,072	0	0	0	20
NE	$2,295	$4,119	0	0	0	19
NH	$3,134	$5,382	0	0	0	30
NJ	$6,048	$14,403	1	0	1	30
NM	$1,982	$2,985	0	0	0	29
NV	$2,364	$5,096	0	0	0	38
NY	$3,743	$9,696	1	0	1	34
OH	$2,304	$4,541	0	0	1	19
OK	$3,047	$4,813	0	0	0	26
OR	$2,162	$3,971	1	0	1	21
PA	$1,989	$3,916	0	0	1	25
RI	$1,298	$2,584	0	0	1	29
SC	$3,328	$5,230	0	0	0	20
SD	$3,133	$5,228	0	0	0	26
TN	$2,851	$5,047	0	0	0	29
TX	$2,836	$4,940	0	0	0	38

(*Continued*)

TABLE 3
Continued

State	Average State Single 2008	State Regulation Presence (0/1)				
		Premium Family 2008	Community Rating	Any Willing Provider	Guaranteed Issue	Number of Mandates
UT	$1,308	$2,530	0	0	0	28
VA	$2,332	$4,631	0	0	1	39
VT	$1,455	$2,678	1	0	1	14
WA	$3,141	$3,342	1	0	1	29
WI	$2,373	$4,462	0	0	0	21
WV	$3,141	$5,338	0	0	1	28
WY	$2,734	$4,734	0	1	0	25
USA	$2,506	$4,646				

Step 2: Calculate Adjusted Premiums

The second step in the analysis requires calculation of premiums adjusted for the effects of state regulations. The basic idea behind a national market is that a person living in heavily regulated State A will be able to buy insurance licensed in less-regulated State B. Suppose that a person lives in State A where the premium is $100 per month. This premium reflects the influence of State A's medical practice style and provider prices (which would not change if the person bought insurance in State B) as well as the effects of regulations and mandates (which would change). If a person bought insurance in State B, the premium would be $100 minus the effects of fewer regulations in State B.

To implement this step, we relied on the premiums reported by Congdon, Kowalski, and Showalter (2008). We adjusted these premiums by age and sex to reflect standard actuarial differences in health care costs and then adjusted them for the effects of regulations. The adjusted premiums were used as inputs into the insurance take-up simulation model.

Step 3: Simulation

In the third step we simulated the effect of a national market on take-up of individual health insurance. Our core data file for this part of the simulation is the MEPS Household Component, which is a nationally representative sample of the noninstitutionalized population in the United States. The MEPS includes detailed information on individuals' demographics, employment status, and health insurance. Of course, knowing the state of residence of individuals is key information. However, the MEPS does not release person-specific state identifiers on a public use file. Therefore, we devised a method for imputing each person's state of residence. This step is described in more detail in the Appendix.

Using the synthetic state-based MEPS described in the Appendix, we adapted a microsimulation model from our previous analyses (Feldman et al., 2005; Parente and Feldman, 2007) to develop a set of national estimates. The simulation model is

capable of generating estimates of health insurance take-up for both the individual and employer-sponsored (group) markets.

The model estimation included several steps. As a first step, we pooled data from four large employers to estimate a conditional logit plan choice model similar to our earlier work (Feldman et al., 2005).[7] Conceptually, the choice model is based on utility maximization, where utility is considered to be a function of personal attributes such as age, gender, income, chronic illness, and family status; health plan attributes such as the tax-adjusted out-of-pocket premium and the deductible amount; and personal characteristics, which enter the model as interactions of personal and plan attributes. The coefficient estimates produced by this model represent the utility of each plan attribute or interaction to an employee.

We then used the estimated choice-model coefficients to predict health plan choices for individuals in the synthetic state-based MEPS file. In order to complete this step, it was necessary first to assign the number and types of health insurance choices that are available to each respondent in the MEPS-HC. For this purpose we turned to the smaller, but more-detailed MEPS Household Component–Insurance Component linked file, which contained the needed information.[8] Using this data set, we estimated an ordered probit model to predict whether those with an offer of employer-sponsored insurance were offered 1, 2, 3, or 4+ plans. We computed the predicted probability for each category and identified the category with the maximum probability as the number of offered plans. The plan types offered to employees were based on the most popular offerings within each of the categories.

One of the distinguishing attributes of the simulation model is the presence of consumer-driven health plans (CDHPs). Specifically, the four employers offered two types of CDHPs: a low-option Health Reimbursement Arrangement (HRA) and a high-option HRA. The low-option HRA is very similar in deductible, coinsurance and premium structure to a Health Savings Account (HSA) plan.[9] This enabled us to model both HRA and HSA choices in the simulation as well as high-, moderate-, and low-option Preferred Provider Organizations (PPOs), and a Health Maintenance Organization (HMO).

Consumers in the group market also have the option to decline the employer's offer of coverage. If they do so, we assume they will either purchase an HSA in the individual market or they will decline to be insured (e.g., because their spouse can cover them). Altogether, consumers in the group market have up to eight choices—the employer's offers, an individually purchased HSA, and no insurance.

[7]These large employers have workers who reside in at least four states. In the two largest employers, over 40 states are represented. This employee population is quite consistent with national census estimates for those under the age of 65 in terms of age and income.

[8]These data are not publicly available. They were analyzed at the AHRQ Data Center in Rockville, Maryland.

[9]In an HRA, the employer creates an account that the employee can use to pay for eligible medical expenses on a pretax basis. Unlike the HSA, however, the employee does not own this account.

In the model, each consumer in the individual market has five choices: high-, moderate-, and low-option PPOs, a high-deductible health insurance plan with a HSA, and the choice to be uninsured.

Chronic illness is modeled at the contract level in the simulations. That is, either the person choosing insurance, or someone covered by their insurance contract, has a chronic illness. This assumption was made because the data used to estimate the health plan choice model could only be attributed to contract holders, not the person receiving care under a contract. As a result, the chronic illness measure reflects a household's illness burden, more than that of one individual, unless the person is buying a single-coverage contract.

The econometric specification of the choice model driving the simulations was a conditional logit regression model. We considered utility to be a function of personal attributes such as age, health plan attributes such as the out-of-pocket premium, and the interactions of personal and health plan attributes, formally stated as

$$U_{ij} = f(Z_j, Y_i * Z_j), \tag{1}$$

where i is the decision-making person choosing among j health plans (including no insurance), Z_j is the health plan attributes, and Y_i is the personal attributes.

An important constraint in our modeling was that any variable used in the health plan choice model from the employer data also had to be available in the MEPS data to be used for the simulations. As a result, the key variables in the health plan choice model were the after-tax premium paid by the employee, the deductible paid by the employee, and the coinsurance rate. Also included in the health plan choice model were alternative-specific constants (intercepts) for each of the possible choices. These intercepts capture plan-specific features not represented by measured elements of plan design. Finally, for the HSA plans in the group and individual markets, we included a contribution into the account for a given year that depended upon income, single or family contract type, and the contract holder's age.

The personal variables in the choice model were: employee or dependent has a chronic illness; employee's age (years), gender, and annual wage income; and employee has single or family contract. The personal variables were interacted with the plan-specific intercepts. We also allowed the out-of-pocket premium to interact with health status to identify whether contract holders with any covered person in poorer health were more or less price sensitive.[10]

The simulation adjusts premiums for the tax treatment of health insurance offered by employers in the group market. Specifically, premiums are adjusted by the marginal federal income tax rate as well as the Social Security tax rate. The ability to adjust for state income taxes is also possible but not considered in this model in order to identify the pure effects of differences in insurance regulations by state.

We relied on the individual-market premiums reported by Congdon, Kowalski, and Showalter (2008). We adjusted these premiums by age and sex (except in

[10]Econometric results and parameter estimates from the health plan choice model are available at: http://aspe.hhs.gov/health/reports/09/cdhp02/report.shtml#_Toc229902360.

community-rated states) to reflect standard actuarial differences in health care costs; then we adjusted them for the effects of regulations and updated them to 2008 dollars.

To account for the complexity of health insurance regulations, we modeled the impact of state regulations on premiums charged to contracts with different health status. This is important because of the likely personal state dependence of the regulatory impact. For example, a person shopping for insurance in a state without a community rating might find the average premium lower by 10 percent compared with a community-rating state. However, healthy people would see a larger reduction than sicker people, while sicker people might see a smaller reduction or even possibly an increase. We can account for these differences because the original premiums in our analysis were based on estimated medical costs at the individual level. We identified contracts where any person (policyholder or dependents) had a history of cancer and decreased the premium cost of shopping in guaranteed-issue states such as Delaware, Maryland, or Hawaii by 50 percent to reflect the marginal cost of that condition for such contracts. But contracts without a history of cancer would experience an 8 percent premium increase in guaranteed-issue states. Similarly, we decreased the premium cost of shopping in community-rated states by 35 percent for contracts with chronic conditions and increased it by 15 percent for those without chronic conditions. These adjustments preserved the average premium differential across states. In sensitivity tests, we found these adjustments made shopping in an unregulated state less desirable to contracts with cancer or a chronic illness due to the high cost and the likely benefit they were deriving from being in a regulated state.

The simulation is based only on choices made by adults aged 19–64 who are not students, not covered by public insurance, and not eligible for coverage under someone else's group policy (we edited out military, students, age under 18 or 65 and older, and those without an employer offer who could be covered by their spouse). As a result, our baseline uninsured and turned down population represents 32.3 million people. However, we present results for our selected sample as well as a national extrapolation that would yield 47 million people uninsured.

SCENARIOS FOR POLICY SIMULATION

We developed three different scenarios for policy simulation. Each of these scenarios was run on a set of minimum, moderate, and maximum impacts of state-specific regulations derived from the literature. The impact of each scenario was calculated by multiplying a given person's original premium by a state-specific min/mod/max multiplier. For each scenario, if the consumer faces a lower premium as a result of the proposed policy change, the consumer will choose the better price. If the new possible premium is not a better deal than that in the consumer's home state, they will stick with their home state in the simulation. The three scenarios are:

Scenario 1: Competition Among Five Largest States

In this scenario, only the five largest states are available for the national market along with the consumer's own state. The rationale for this scenario was based on it being included in a previous legislative proposal discussed in the U.S. House of Representatives Energy and Commerce Committee in 2006. The idea is that insurance departments in the largest states would have the critical skills to take on additional

regulatory responsibilities for new out-of-state consumers. The five largest states in order of descending population size are California, Texas, New York, Florida, and Illinois. Of these, Texas has the least regulated health insurance environment and is the comparison state in the simulations.

Scenario 2: Competition Among All 50 States

For this scenario, the state with the least regulation is identified as Alabama. All interstate consumers are assumed to switch policies to Alabama unless they were already residents of Alabama. This scenario could provide the most extreme outcome of legislation similar to that proposed by Rep. John Shadegg (R-AZ).

Scenario 3: Competition Within Regions

Under this scenario, the national health insurance market is divided into four regions: Northeast, South, Midwest, and West. Residents in each region can buy insurance from a state within their region with the most favorable premium resulting from decreased regulation. This scenario was motivated by the regional Medicare Part D drug coverage and TriCare[11] contract models for insurance carriers. For the Northeast, the state with least regulatory impact was New Hampshire. In the Midwest, Nebraska was the favored state. In the West, the state of choice was Arizona, and in the South, it was Alabama.

FINDINGS

The findings from the simulations are presented below. First, results for each scenario are presented. Second, we describe the impact of the moderate estimates for the national market scenario in breakdowns by income and state of residence.

For each scenario, the change in the number of insured is presented from a 2008 status quo estimate. The insurance market is divided into the individual and group markets and further demarcated by the types of health insurance taken up from the simulation model. The "HSA No-Offer" category in the group market refers to individuals who were offered coverage but turned it down and bought an HSA policy on their own. For each scenario, we provide a "within-sample" estimate and a national estimate. The within-sample estimate is based on the 18–64 aged population from MEPS, and the national estimate is an extrapolation to the non-Medicare age U.S. population.

The impact of competition among the five largest states is presented in Table 4. Under the minimum, moderate, and maximum effects of state policies, the level of insurance increases. The impact ranges from 53,853 (minimum) to 7.8 million (maximum) newly insured from a base of 47 million uninsured. The moderate impact is 4.5 million newly insured individuals. Almost all of the effect is observed in the individual market.

Allowing for a national market where a person can shop for health insurance in any state yields the simulated results presented in Table 5. The reduction in the number of uninsured is greater than in the first scenario across the minimum, moderate, and maximum regulation effects. The moderate national impact is 8.2 million previously

[11] TriCare is the Department of Defense's health care program for members of the uniformed services, their families, and survivors.

TABLE 4
Scenario 1: Competition Among Five Largest States

	Status Quo	Scenario 1					
		Regulated Top 5 State—Texas					
		Minimum		Moderate		Maximum	
Individual							
HSA	4,723,768	10,659	0%	768,697	16%	1,209,743	26%
PPO high	7,717,302	26,446	0%	2,251,661	29%	4,109,275	53%
PPO low	298,355	(535)	0%	(56,496)	−19%	(80,848)	−27%
PPO medium	1,910,840	1,242	0%	161,543	8%	236,567	12%
Uninsured	28,084,067	(37,812)	0%	(3,125,405)	−11%	(5,474,737)	−19%
Group market							
HMO	5,505,466	(0)	0%	(179)	0%	(1,487)	0%
HRA	6,166,134	(4)	0%	(791)	0%	(2,711)	0%
HSA offered	307,298	(0)	0%	(37)	0%	(165)	0%
HSA no-offer	11,088	69	1%	27,301	246%	135,973	1226%
PPO high	16,535,831	(2)	0%	(578)	0%	(3,229)	0%
PPO low	665,950	(0)	0%	(72)	0%	(796)	0%
PPO medium	53,470,814	(62)	0%	(25,093)	0%	(119,262)	0%
Turned down	3,530,681	(0)	0%	(552)	0%	(8,323)	0%
		Within Sample		National			
Minimum insurance estimate		37,812		53,853			
Moderate insurance estimate		3,125,958		4,452,122			
Maximum insurance estimate		5,483,060		7,809,207			

uninsured who now have coverage. The greatest take-up is for the high-option PPO, followed by the HSA. There is a net transfer out of low-option PPO plans toward high-option PPO plans. This finding makes sense in that if someone could afford a more generous plan design due to a lower premium they would make the switch. In the group market, there is movement out of medium-option PPOs in favor of the opt-out HSA purchased as an individual.

Under the scenario of competition within four regions in the United States shown in Table 6, we find greater insurance take-up than the status quo, but less impact than a national market among all 50 states. Interestingly, coverage is higher under this scenario than under the "five largest states" scenario. The moderate insurance estimate for this scenario indicates a net increase of 7.4 million newly insured. Movement across plans is fairly consistent with what was observed in previous tables. The minimum insurance estimate is proportionately smaller than the national market minimum estimate, suggesting that regional competition might expose greater sensitivity to expected differences in state mandates.

TABLE 5
Scenario 2: Competition Among All States

	Status Quo	Scenario 2					
		Least Regulated State—Alabama					
		Minimum		Moderate		Maximum	
Individual							
HSA	4,723,768	346,682	7%	1,326,375	28%	1,636,962	35%
PPO high	7,717,302	958,484	12%	4,259,008	55%	6,987,918	91%
PPO low	298,355	(18,061)	−6%	(78,188)	−26%	(122,061)	−41%
PPO medium	1,910,840	61,394	3%	230,257	12%	269,513	14%
Uninsured	28,084,067	(1,348,499)	−5%	(5,737,452)	−20%	(8,772,332)	−31%
Group market							
HMO	5,505,466	(16)	0%	(508)	0%	(4,985)	0%
HRA	6,166,134	(157)	0%	(1,711)	0%	(5,990)	0%
HSA offered	307,298	(6)	0%	(86)	0%	(428)	0%
HSA no-offer	11,088	3,780	34%	64,982	586%	353,446	3188%
PPO high	16,535,831	(79)	0%	(1,424)	0%	(9,120)	0%
PPO low	665,950	(3)	0%	(231)	0%	(2,841)	0%
PPO medium	53,470,814	(3,511)	0%	(58,965)	0%	(297,398)	−1%
Turned down	3,530,681	(8)	0%	(2,057)	0%	(32,684)	−1%
		Within Sample		National			
Minimum insurance estimate		1,348,507		1,920,600			
Moderate insurance estimate		5,739,508		8,174,451			
Maximum insurance estimate		8,805,016		12,540,478			

Using the person-specific estimates from the simulations, we generated an estimate of insurance take-up by those with annual wage income greater than $45,000 and those with income less than $45,000. We chose to focus on the national competition scenario 2 and used the moderate insurance estimate to identify the impact by different income levels. An income level of $45,000 was chosen to represent an estimated national mean household income. The income-specific results are shown in Table 7.

In the individual market, we find the greatest percentage increase in insurance among the population with less than $45,000 income (40 percent), compared with those with more than $45,000 income (35 percent). Interestingly, we find a smaller percentage decrease in the uninsured among lower-income individuals (−19 percent) than higher-income individuals (−30 percent). This difference suggests that premium costs remain too high for lower-income individuals to take up insurance even with the ability to shop in a less regulated state.

In the group market, the response is very small due to the low opt-out into individually financed HSAs. The impact is greatest for those with lower incomes in the group market.

TABLE 6
Scenario 3: Competition Among States in Four Regions

	Status Quo	Scenario 3					
		Least Regulated State in Four Regions—AL, AZ, NE, NH					
		Minimum		Moderate		Maximum	
Individual							
HSA	4,723,768	276,962	6%	1,176,220	25%	1,540,873	33%
PPO high	7,717,302	785,251	10%	3,892,227	50%	6,453,945	84%
PPO low	298,355	(15,965)	−5%	(77,686)	−26%	(113,218)	−38%
PPO medium	1,910,840	52,852	3%	202,296	11%	240,653	13%
Uninsured	28,084,067	(1,099,100)	−4%	(5,193,057)	−18%	(8,122,253)	−29%
Group market							
HMO	5,505,466	(12)	0%	(301)	0%	(2,402)	0%
HRA	6,166,134	(125)	0%	(1,467)	0%	(4,667)	0%
HSA offered	307,298	(5)	0%	(69)	0%	(285)	0%
HSA no-offer	11,088	2,894	26%	48,592	438%	224,457	2024%
PPO high	16,535,831	(60)	0%	(996)	0%	(5,184)	0%
PPO low	665,950	(2)	0%	(116)	0%	(1,264)	0%
PPO medium	53,470,814	(2,685)	0%	(44,738)	0%	(196,852)	0%
Turned down	3,530,681	(4)	0%	(905)	0%	(13,803)	0%
		Within Sample		National			
Minimum insurance estimate		1,099,104		1,565,391			
Moderate insurance estimate		5,193,962		7,397,461			
Maximum insurance estimate		8,136,055		11,587,715			

In Table 7 we also show the impact of a combination of a national marketplace and former President George Bush's 2008 State of the Union (SOTU) health insurance proposals (Department of the Treasury, 2008). Those buying a single-coverage contract would get a $7,500 tax deduction and those buying a family contract would get a $15,000 tax deduction. For the individual market, the combination of these two policies is fairly substantial, with a 71% reduction in the uninsured among those earning less than $45,000 a year. In the group market, significantly more people opt to take employer-provided health insurance than under the status quo.

Another perspective on the impact of a national insurance market is the effect on individual states. We expect that states with the highest regulatory burden would have the greatest movement to a less regulated state. In Table 8, we show the range of increased insurance coverage from the state of origin in the status quo situation to a national marketplace. Percent changes reflect the difference from the combined individual and group markets at status quo to a different scenario. Highly regulated states such as Maryland, Washington, Virginia, and West Virginia have the greatest percent changes.

TABLE 7
Impact of National Market (Scenario 2) and 2008 State of the Union Proposal by Insurance Status and Income

		Scenario 2			
		AL as Default Least Regulated State			
	Status Quo	National		National & SOTU 2008	
Individual	Sample	Sample	% Change	Sample	% Change
Uninsured < $45K income	24,673,907	19,966,584	−19%	7,252,207	−71%
Uninsured >= $45K income	3,410,160	2,380,032	−30%	3,211	−100%
Insured < $45K income	11,735,122	16,442,445	40%	29,156,822	148%
Insured >= $45K income	2,915,142	3,945,270	35%	6,322,092	117%
Group Market					
Uninsured < $45K income	3,084,578	3,083,009	0%	1,205,980	−61%
Uninsured >= $45K income	446,103	445,616	0%	272,228	−39%
Insured < $45K income	47,414,484	47,416,053	0%	49,293,082	4%
Insured >= $45K income	35,248,098	35,248,585	0%	35,421,973	0%
		Within Sample		National	
National market uninsured change		(5,739,508)		(8,174,451)	
National market & 2008 SOTU uninsured change		(22,881,124)		(32,588,267)	

We also modeled the combined impact of a national marketplace and the 2008 SOTU proposal and found similar distributional patterns but a clearly accelerated movement from states where the insured are domiciled. In Maryland, the share of individuals with insurance increased from 14 percent to 37 percent due to the addition of the SOTU proposal.

One concern about interstate purchase of insurance is that vulnerable populations with chronic illnesses would face rising premiums over time because of increasing cost pressures and limited health plan options. This criticism of a national marketplace for individual health insurance is based on adverse selection concerns. The hypothesis is that younger, healthier individuals will find the premiums and policies in the less regulated states more appealing while older, sicker individuals will prefer policies in more regulated states. Thus, a more open insurance market could allow those

TABLE 8
Impact of National Market (Scenario 2) and 2008 State of the Union Proposal by State

	Status Quo		National Market			National Market & SOTU 2008		
State	Individual	Group	Individual	Group	% Change	Individual	Group	% Change
AK	25,037	254,263	28,179	254,263	1%	88,637	268,059	28%
AL	358,089	1,524,624	358,089	1,524,624	0%	756,128	1,559,473	23%
AR	468,958	906,086	486,742	906,086	1%	591,815	907,849	9%
AZ	458,356	2,000,931	473,107	2,000,931	1%	960,364	2,024,927	21%
CA	3,463,657	12,594,829	4,134,239	12,594,831	4%	6,524,469	12,695,943	20%
CO	345,832	1,719,774	397,590	1,719,774	3%	795,157	1,750,321	23%
CT	89,322	1,416,085	112,755	1,416,085	2%	285,887	1,455,191	16%
DE	75,678	353,904	92,348	353,904	4%	103,407	354,096	6%
FL	1,304,122	5,972,619	2,255,675	5,972,654	13%	3,343,401	6,086,599	30%
GA	532,298	3,415,490	705,663	3,415,491	4%	1,459,406	3,503,879	26%
HI	141,724	513,589	187,629	513,589	7%	220,415	514,250	12%
IA	216,504	1,202,769	317,218	1,202,770	7%	460,637	1,211,646	18%
ID	134,906	464,616	235,620	464,616	17%	311,348	471,551	31%
IL	405,168	5,251,628	468,404	5,251,628	1%	1,547,788	5,369,902	22%
IN	621,452	2,330,686	728,286	2,330,686	4%	1,008,499	2,367,867	14%
KS	121,745	1,136,929	135,052	1,136,929	1%	323,920	1,150,308	17%
KY	387,604	1,474,683	436,786	1,474,683	3%	769,118	1,495,233	22%
LA	255,053	1,561,763	308,748	1,561,763	3%	715,461	1,613,671	28%
MA	19,520	2,276,118	203,552	2,276,506	8%	628,438	2,450,401	34%
MD	217,560	2,080,518	529,791	2,080,575	14%	940,197	2,201,983	37%
ME	109,339	550,625	163,509	550,625	8%	183,695	551,765	11%
MI	636,095	4,232,660	943,801	4,232,666	6%	1,431,883	4,266,469	17%
MN	226,333	2,180,219	264,055	2,180,220	2%	604,106	2,191,656	16%
MO	328,293	2,307,270	386,947	2,307,270	2%	836,461	2,348,142	21%
MS	241,562	980,110	249,421	980,110	1%	484,727	984,904	20%
MT	66,775	307,598	76,746	307,598	3%	167,966	316,302	29%
NC	676,812	2,998,459	1,142,207	2,998,472	13%	1,688,555	3,056,040	29%
ND	34,150	253,861	36,004	253,861	1%	86,926	259,887	20%
NE	81,174	671,256	85,171	671,256	1%	217,563	681,158	19%
NH	36,502	555,705	44,107	555,705	1%	113,391	572,312	16%
NJ	20,328	2,393,267	143,123	2,394,234	5%	651,233	2,390,306	26%
NM	240,329	637,256	263,614	637,256	3%	394,608	641,027	18%
NV	168,948	814,555	203,814	814,556	4%	416,470	827,394	26%
NY	121,626	6,753,047	959,629	6,754,186	12%	2,091,675	7,424,117	38%
OH	642,890	4,579,871	1,087,247	4,579,882	9%	1,749,139	4,632,293	22%
OK	209,904	1,208,503	236,684	1,208,504	2%	567,520	1,253,494	28%
OR	252,405	1,218,744	663,293	1,218,748	28%	781,156	1,234,513	37%
PA	675,705	4,853,335	1,024,798	4,853,343	6%	1,469,815	4,882,293	15%
RI	88,707	434,862	121,903	434,862	6%	140,049	435,349	10%
SC	225,440	1,395,668	237,629	1,395,668	1%	596,097	1,458,417	27%
SD	29,777	271,233	33,408	271,233	1%	88,288	283,700	24%
TN	401,215	1,948,370	463,574	1,948,371	3%	1,022,969	2,022,284	30%
TX	1,398,432	8,361,776	1,745,464	8,361,778	4%	3,672,305	8,647,868	26%

(*Continued*)

TABLE 8
Continued

State	Status Quo Individual	Status Quo Group	National Market Individual	National Market Group	National Market % Change	National Market & SOTU 2008 Individual	National Market & SOTU 2008 Group	National Market & SOTU 2008 % Change
UT	371,112	876,221	387,514	876,221	1%	500,439	877,486	10%
VA	616,541	2,688,648	1,141,492	2,688,661	16%	1,548,180	2,745,801	30%
VT	48,290	252,989	74,587	252,989	9%	82,316	253,538	11%
WA	555,371	2,288,192	1,028,021	2,288,209	17%	1,320,419	2,377,662	30%
WI	276,530	2,239,075	297,050	2,239,075	1%	683,167	2,273,089	18%
WV	116,710	578,129	219,305	578,134	15%	368,536	602,469	40%
WY	35,246	177,949	43,078	177,950	4%	92,970	184,686	30%

TABLE 9
Long-Term Impact of National Insurance Market on Share of Chronically Ill Population Insured Compared With Status Quo

Year	% of Chronically Ill Insured Status Quo	% of Chronically Ill Insured National Market
0	29.5%	35.3%
1	27.8%	34.2%
2	27.3%	33.0%
3	26.4%	32.1%
4	25.5%	31.3%
5	24.8%	30.7%
Long-term %change (Years 0–5)	−15.9%	−13.0%

who prefer a less regulated environment to purchase there and subsequently raise premiums in more regulated markets. Over time, as the young and healthy leave for less regulated markets, rates in more regulated states will rise and coverage for the older, sicker population is likely to fall. Because the purpose of many of the regulations discussed in this article is to protect the ability of these more vulnerable populations to obtain affordable coverage, we examined the longer-term impact of a national marketplace in contrast to the current status quo.

To examine the longer-term impact of a national insurance market we extended our 1-year simulation model to run out over multiple years. For this extension we assume real premium growth rate of 6 percent per year.[12] In Table 9, we provide a 6-year set of microsimulation results where we compare differences in insurance take-up among the chronically ill and nonchronically ill for a status quo environment and the national

[12]This assumption is based on the Congressional Budget Office's estimate of 8 percent insurance premium inflation discounted by a productivity growth rate of 2 percent to yield a 6 percent real premium inflation rate.

market option where people choose the least costly state to purchase individual health insurance. The table describes the proportion of chronically ill individuals in the status quo and national insurance markets getting any insurance coverage. At time period 0, 29.5% of the chronically ill get insurance coverage in the status quo compared with 35.3% coverage of this population in the national marketplace. It is important to note that the national marketplace will, from its start, improve coverage for the chronically ill compared with the status quo. Keep in mind, however, that the chronically ill pay higher premiums in the status quo except in a few regulated states.

Over time, as premiums increase, the chronically ill get less coverage in both the status quo simulation and the national marketplace simulation. By the fifth year of the simulation, this population has seen a decline in coverage of 13 percent (from 35.3 percent to 30.7 percent) in the national marketplace. Even so, coverage for the chronically ill is greater in the national marketplace than in the status quo. This example points to the fact that unchecked premium increases over time are the greatest threat to insurance coverage in both the status quo and the national marketplace.

DISCUSSION

Our results suggest that significant reductions in the level of uninsured can result if consumers are permitted to purchase insurance across state lines. These results are driven by the impact on premiums from different states' regulations. The impact of regulations on the probability of being uninsured has been explored by Sloan and Conover (1998) and Zuckerman and Rajan (1999). Although our microsimulation approach is novel and the policy question different from prior research, the underlying model can be used to generate comparable estimates to previous research as a test for robustness.

Prior studies tested the impact of mandated benefits and community rating in isolation. We completed a robustness check focused on New York as a large state with community rating, guaranteed issue, and 54 individual mandates already in place. Since 1993, New York has had community rating and guaranteed issue regulations. Using the plan choice model in this article combined with a telephone survey of approximately 1,000 New York respondents in the individual insurance market completed by Zogby International, we found similar results to prior analyses. Specifically, Sloan and Conover (1998) estimated that each additional mandated benefit raises the probability of an adult being uninsured by 0.004. Our New York predictions yield an individual mandate effect on the probability of being uninsured of 0.0022. With respect to the guaranteed issue, Zuckerman and Rajan (1999) estimated that guaranteed issue raises the uninsurance rate by 0.0277 compared with states that do not have guaranteed issue. In New York, we estimate guaranteed issue alone raises the uninsurance rate by 0.057. While this estimate is twice as high, New York may be a special case because of the very high premium costs in the state—about twice the national average. Our estimates have the same direction as those of Zuckerman and Rajan (1999).

Studies examining the impact of changing the McCarran-Ferguson Act also are relevant for consideration because of the congressional precedent. In this study, we are proposing that health insurance companies be subject to interstate commerce laws and regulations. Another part of McCarran-Ferguson is the limited exemption of

insurers from federal antitrust laws. As discussed by Harrington (2010), repealing that exemption is not likely to improve competition in the health insurance market. Recently, the U.S. House of Representatives passed H.R. 4626 (The Health Insurance Industry Fair Competition Act) to repeal the limited antitrust exemption. This bill is now in the U.S. Senate. Legislative attention directed at McCarran-Ferguson demonstrates that the policy can be changed if there is sufficient political consensus. This analysis suggests there is more empirical evidence to allow interstate purchase of insurance than to repeal the limited antitrust exemption.

CAVEATS

Our analysis has three major limitations. The first is that the simulations assume that regulations affect the demand for coverage exclusively through their effect on premiums. It is undoubtedly true, however, that some of these regulations add value as well. The decline in price from removing certain mandates, for example, will not garner the same demand response as a decline in price that keeps the original benefits intact.

We believe this concern is warranted but it may not be significant enough to bias the outcome of our approach. Consider the following. Suppose the demand for health insurance coverage Q can be written as a function of the premium P and mandates M, where the premium depends on the number of mandates

$$Q = Q(P(M), M). \tag{2}$$

Mandates have two effects on demand: one that reduces demand through higher premiums and another that increases demand because mandates increase the value of coverage, holding premiums constant. We ignore the second effect, which is equivalent to assuming that consumers do not regard the mandate as increasing the value of coverage. By differentiating (2), we get

$$dQ/dM = \partial Q/\partial P * dP/dM + \partial Q/\partial M. \tag{3}$$

If we divide both sides of (3) by Q and let $dM = 1$ (i.e., imagine that one additional mandate is imposed), we get

$$dQ/Q = \eta * dP/P + \partial Q/Q, \tag{4}$$

where η is the price elasticity of demand for coverage. Sloan and Conover (1998) have estimated that each additional mandate would reduce the probability of an adult being covered by any private health insurance by 0.004, given the baseline probability of 0.82. We also use an estimate of the price elasticity of demand for private health insurance coverage equal to -0.67 from Parente and Feldman (2007). Our assumption that the value of one additional mandated benefit (the $\partial Q/Q$ term)

is equal to zero implies that the "pure" price effect of that benefit is

$$dP/P = (-0.004/0.82)/(-0.67) = 0.0072. \quad (5)$$

Comparing this estimate to the midpoint value of $dP/P = 0.0065$ derived from Table 2, we suggest that ignoring the demand-increasing effect of an additional mandate causes very little error. In fact, the mandate appears to have negative value, although we acknowledge that this estimate involves considerable uncertainty.[13] Congdon, Kowalski, and Showalter (2008) also found that consumers in states with more mandates tend to purchase policies with larger deductibles and higher coinsurance—a sign that mandates increase the "pure" price of health insurance.

A second limitation is that removing regulations will not affect all plans equally. For example, removing AWP laws should reduce premiums more for managed care plans than for plans that had broad provider networks in the first place. Unfortunately, none of our sources can provide estimates with enough detail to indentify the plan-specific impact of AWP laws or other regulations. This should not be a problem in the individual market because managed care plans are quite rare in this market (see the status quo probabilities in Table 4). Thus, the effects of AWP laws that have been estimated for the individual market should apply to the same degree, more or less, to all plan types in this market. However, we would expect to see more heterogeneity in the effects of laws and regulations in the small-group market, where managed care plans are more commonly offered. Modeling the effects of interstate shopping in the small-group market is beyond the scope of our simulations.

A third limitation that can complicate our simulations is that reforms are often correlated, so our estimates may be biased. We agree that the effects of individual regulations may be overstated if the regulations are imposed or removed as a package. This is why we tried three distinctively different scenarios to test the differential impact of the insurance reform options. The greatest credibility probably should be given to our intermediate-impact scenario. To investigate this further would require more data from natural experiments to see how specific changes in regulations would affect health plan choice and the decision to be uninsured.

CONCLUSION

We find evidence of a significant opportunity to reduce the number of uninsured under a proposal to allow the purchase of individual health insurance across state lines. The best scenario to reduce the uninsured, numerically, is competition among all 50 states with one clear winner. This idea is not without precedent outside the health care industry, where Delaware has become the most favored state for incorporating a firm. The most pragmatic scenario, with a good impact, is one winner in each regional market. This is a compromise since the U.S. health insurance industry is only "half-way" national (through national employers contracting with insurers that

[13]See Auerbach and Ohri (2006) for another recent estimate of the price elasticity of demand for health insurance. They found the price elasticity for all single workers who were ineligible for a group policy was −0.592; for workers at less than 200 percent of the federal poverty limit, the price elasticity was −0.873.

offer national provider panels), and this could provide a practical, more politically palatable approach. The "five large state" scenario is the least effective policy for increasing the number of insured people. This is likely due to the fact that only one state of the five, Texas, had a combined regulatory burden that is less than the 50th percentile of all states.

Under any scenario, there will be significant implementation issues. In general, these issues need to address the relationship between the state where the policyholder lives and the state that is "exporting" insurance. Miller (2002) refers to the division of regulatory powers between the "primary state" (the one designated by the insurer as the state whose laws govern the sale of coverage) and the "secondary state" where the insurer does business. H.R. 2355—Rep. Shadegg's (R-AZ) Health Care Choice Act of 2005—exempted the policy from coverage laws in the secondary state but left the insurer with some obligations to the secondary state, such as obligations to pay premium taxes and to comply with state laws regarding fraud and abuse. These policies might form the basis for legislated or contractual agreements to divide regulatory powers between primary and secondary states. Of course, adequate disclosure to consumers of the primary and secondary states' obligations will be paramount for this to work.

One possible outcome is that consumers who buy insurance in one state, but live in another, could have two insurance regulators looking out for them rather than just one. This would address a substantial concern that "demandating" the market could leave consumers without adequate protection. At the same time, if the effect of mandates on premiums substantially reduces the probability that someone would buy insurance, one must ask: which is the worse outcome, lack of coverage for a given service or no coverage at all due to higher premiums?

Although we have modeled the person-level impact of a national market on coverage, we are unable to assess the impact of such a migration on provider access or quality of care. Nevertheless, a national market would lead to substantially more health insurance coverage, which should improve access to health care among the vulnerable populations who currently find health insurance unaffordable. In addition, development of a national market requires no additional federal resources other than support for legislation to permit the development of such a change.

APPENDIX: STATE-SPECIFIC IMPUTATION OF MEPS

The state-specific imputation of the Medical Expenditure Panel Survey (MEPS) was a critical element of this simulation. Below, we summarize the four-step process that resulted in the creation of 51 synthetic state populations from the 2005 MEPS-HC.

First, we used the 2005 American Community Survey (ACS) to define the strata that would be used to generate the sample.[14] The final strata included four variables: age (18–34, 35–44, 45–54, and 55–64), income (1 if household income is in the lowest quartile, 0 if not), male (1 if male, 0 if not), and white (1 if white, non-Hispanic, 0 if not). All possible combinations of these strata resulted in 32 cells per state. The unit of

[14]We used the ACS because it gave us state-specific distributions that were required to create the synthetic state markets for the analysis.

TABLE A1
2005 Regional MEPS Sample Size by Region

Region	Sample Size
Northeast	2,874
Midwest	3,734
South	7,520
West	5,132

analysis for data construction is the person, not the household. Using person weights in the ACS, we tabulated the population frequencies for each of these strata by state.

Second, we divided the 2005 MEPS into four regions—Northeast, Midwest, South, and West. The District of Columbia is in the South region. We selected only 18- to 64-year-olds to match the ACS selection criteria. The regional MEPS sample sizes are reported in Table A1.

The strata were defined within each of these regions. We then wrote a STATA computer program to draw a random sample with replacement of 1,000 (approximately, given rounding) observations from the region containing a particular state.[15] The frequency of observations by strata was matched to represent the population (e.g., if 10 percent of the state is age 18–34, low-income, male, and nonwhite, then 100 of the 1,000 observations would be drawn from MEPS individuals of this type). After all of the random samples were drawn, the data were appended to form a national data set.

In the third step of the process, we validated our state assignments. While we know that the state samples match the sociodemographic criteria with respect to the strata, additionally we wanted to check to see how our samples looked with respect to insurance holding. To do this, we computed state-specific estimates of uninsurance from the 2006 Current Population Survey (CPS). We compared the uninsurance estimates generated for our synthetic state populations with the CPS estimates. This comparison fares pretty well. There are only two notable issues: (1) we tended to underestimate the amount of uninsurance in synthetic Northeast states due to the small MEPS sample and the population heterogeneity in the Northeast, and (2) uninsurance was overestimated in Washington, D.C., because the sample is drawn from the entire South region and there is no easy way to account for the concentration of federal government workers in D.C.

In our fourth and final step, we merged several other variables into the file and selected the sample to mimic the one we have used previously in simulations (Feldman et al., 2005). In particular, we deleted cases of adult dependents who did not have an ESI offer but had a spousal offer ($n = 8{,}609$), those who reported having public insurance at any point during round 1 of MEPS ($n = 4{,}725$), and full-time students ($n = 892$).

[15]The sample size for Hawaii had to be reduced to 600 because the MEPS sample from the Western region of the United States did not have enough representation among certain strata to accommodate the sociodemographics of Hawaii. STATA does not allow one to draw a random sample from a stratum that is larger than the population, even with replacement.

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