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HIGH-RISK POOLS FOR UNINSURABLE INDIVIDUALS: RECENT GROWTH, FUTURE PROSPECTS

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ABSTRACT

High-risk pools are state programs that were recently brought under federal review by the Health Insurance Portability and Accountability Act of 1996. For a subsidized, yet above-standard premium, they provide coverage to individuals lacking access to private health insurance, typically due to pre-existing conditions. Reducing high-risk pool premiums in all states to the level prevailing in the most generous states (at an annual cost of about $105 million) could lead to a modest but significant increase in enrollment, relative to the uninsurable population. In addition, non-premium changes, for example to benefits and marketing, could also have substantial effects on enrollment.

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INTRODUCTION

The recent economic downturn has reawakened national concern about the problem of the uninsured. While the proportion of the population without health insurance decreased from 1998 to 2000 (from 16.3 percent to 14 percent) (Census, 2000; Census, 2001), the recent economic recession and associated loss of jobs has exacerbated the problem. Between March and November of 2001, nearly one million individuals lost their jobs and their health care coverage; half of these losses occurred after the terrorist attacks of September 11, 2001 (Families USA, 2001). The increase in the number of uninsured in 2001 was the largest one-year increase in nearly a decade with 2.2 million losing coverage (Covering the Uninsured, 2002). An additional 2.4 million people lost coverage in 2002 (Mills and Bhandari, 2003). With higher unemployment and lower consumer spending, state tax revenues are down and budget deficits have reappeared. Consequently, Medicaid budgets are tight and some states have cut optional populations from their programs to reduce expenditures (Simon, 2002; Sloane, 2003).

Among the growing number of uninsured is a class of individuals most in need of insurance: the uninsurable. These are individuals with potentially costly health conditions who pose a high risk to any insurance carrier and who cannot obtain health care coverage due to medical underwriting.[1] In 29 states (as of July, 2002), these high-risk, uninsurable individuals are eligible for coverage under special state programs known as comprehensive health insurance plans for high-risk individuals (high-risk pools). All high-risk pools offer coverage for a subsidized premium that is, nevertheless, above

[1] Medical underwriting is the consideration of medical history in the determination of coverage eligibility.

standard rates. Though operations vary by state, subsidy financing is generally provided by assessments on private carriers, general state revenue, other public sources (like tobacco-settlement funds), or a combination of these.

High-risk pools have quietly become an important component in the nation's public/private patchwork of health care coverage. The number of high-risk pools has been gradually growing along with enrollment since the first pools began operation in Connecticut and Minnesota in 1976. Recently, the Health Insurance Portability and Accountability Act (HIPAA) of 1996 has encouraged this growth by requiring states to guarantee health insurance portability (i.e., that health insurance is available) to individuals who meet certain requirements. High-risk pools have been designated as one of the State Alternative Mechanisms (SAMs) for compliance with the portability provisions of HIPAA, although the act does not endorse high-risk pools above all other alternatives. Moreover, HIPAA established a federal regulatory role over states that do not select an acceptable portability mechanism. The Centers for Medicare & Medicaid Services (CMS) is responsible for undertaking periodic reviews to determine which states have SAMs that are in compliance with HIPAA. In addition, CMS directly exercises federal authority in states that are not in compliance. Since this federal authority overrides what would otherwise be a state prerogative, HIPAA creates an incentive for states to select an alternative mechanism, thereby strengthening the position of high-risk pool advocates.

In this article, we combine high-risk pool operational data with state demographic and health insurance data to investigate the historical growth in high-risk pools and the

affordability of high-risk pool premiums. We also study the potential for enrollment growth if the premium subsidies were increased.

DATA

We constructed a database consisting of high-risk pool operational data linked to state demographic data. High-risk pool operational data (number of enrollees, actual premiums charged, statutory premium caps, and other financial and benefits data) for the years 1981-2000 were obtained from the Communicating for Agriculture (CFA) publication *Comprehensive Health Insurance for High-Risk Individuals* (Communicating for Agriculture, 1995-2001/2002).

Most state demographic measures (state population, number of uninsured, number of uninsurable, income statistics) were obtained or constructed from the U.S. Census Bureau's 1995-2001 Current Population Survey March Supplement (CPS). We chose the CPS because the data are relatively current, they are comprehensive on demographics and income, and reasonably so on health insurance. Additionally, by using the standard technique of pooling three years of data, we were able to obtain adequate sample sizes for annual state-level descriptive analysis from CPS data.[2] Because high-risk pools serve uninsurable individuals, we needed a measure of the number of uninsurable persons in each state. Unfortunately, we are aware of no broadly accepted statistics on this topic, so

[2] Pooling data is a standard technique of appending data sets from multiple years to increase sample size for more accurate estimation. There are also some limitations of CPS data: (1) The survey does not ask about the continuation of previous employer-sponsored group coverage by individuals who have left their jobs, a protection provided under the Consolidated Omnibus Budget Resolution Act of 1986 (COBRA). COBRA coverage is relevant to HIPAA eligibility because one must exhaust COBRA coverage to qualify for the protections established by HIPAA. (2) CPS data are not comprehensive with regard to health status which is relevant to determining who might be uninsurable due to underwriting.

we developed an approximation, defining the uninsurable population for each state as individuals who were uninsured and who either could not work, were limited in the type of work they could do, or received any disability or worker's compensation income.[3] The remaining data items, namely per capita Medicare expenditures, were obtained from the Statistical Abstract of the United States (Census, 1995-2001).

The resulting dataset consists of 335 observations, each representing a high-risk pool in a single state for a single year over the period 1981-2000. All of these observations include CFA operational data and the 188 state-year observations corresponding to the years 1995-2000 also include Statistical Abstract and CPS data.

DESCRIPTIVE RESULTS

Pool growth

Three high-risk pools were operating by 1981. The Connecticut and Minnesota pools opened in 1976 and Wisconsin's began operation in 1981. From 1981 to 2000, the number of states with high-risk pools increased nearly every year, as shown in Table 1. The only year in which the number of pools decreased is 1995, when Tennessee folded its high-risk pool into TennCare.[4] Table 1 also shows the number of states that use a high-risk pool as the state alternative mechanism to satisfy the portability requirements of HIPAA. Since the passage of HIPAA in 1996, most states with high-risk pools began offering pool coverage to HIPAA-eligible individuals to satisfy the new portability

[3] Our approach suggests that roughly one percent of the total population and six percent of the uninsured population is uninsurable; this is slightly higher than results cited by the State of California, namely that 2.5-5 percent of California's uninsured are uninsurable due to medical underwriting (Hunt, 2000).

[4] TennCare is Tennessee's health insurance program for the low-income and uninsurable population, including the Medicaid-eligible population. Because the uninsurable population is just a small part of TennCare, it does not operate like a standard high-risk pool and should not be viewed as one.

requirements. Two states created high-risk pools specifically in reaction to the passage of HIPAA (Alabama and Texas) and several new pools have opened more recently (in Kentucky, New Hampshire, and Maryland, all too new to be included in this study). Only four of the 27 pools operating in 2000 were not HIPAA pools (those in California, Florida, Missouri, and Washington State).

Corresponding to the growth in the number of high-risk pools, Table 1 shows nearly steady growth in the number of pool enrollees. The only period of decline was from 1994-1997. During this period, Tennessee folded its pool into TennCare, which accounts for part of the decrease in 1995. The period of declining enrollment also immediately follows or coincides with the passage of small- and non-group insurance reforms in many states (GAO, 1995). These reforms may have been associated with reduced financial support for high-risk pools, given the expectation at the time that insurance reform would reduce the need for pool coverage.

The number of individuals with high-risk pool coverage is very small relative to the number of uninsured, as shown in Table 2. However, this number is larger, and in some states substantial, relative to the numbers of medically uninsurable (the target population for the pools).[5] Presumably due to its low premiums, Minnesota's pool is the largest in absolute terms (with 25,892 covered in 2000) and relative to the state's uninsured and uninsurable populations (covering 6 percent and 54 percent, respectively). The figures for Minnesota are far above the national averages; nationally, high-risk pool

[5] The target population are those who cannot obtain insurance in the standard (group/individual) market due to medical underwriting. This includes those estimated as uninsurable from CPS data *and* high-risk pool enrollees. High-risk pool premiums are above standard levels and most pools require potential enrollees to demonstrate that private carriers have rejected them; thus, virtually all high-risk pool enrollees would be uninsurable if not enrolled. Consequently, we calculated percents of uninsurable (target population) as {pool enrollment/(pool enrollment + CPS estimate of uninsurable)} x 100.

enrollment is 0.5 percent of the total uninsured population and 8 percent of the uninsurable population.

Barriers to enrollment

Of all the possible barriers to high-risk pool enrollment, two stand out as the most significant: enrollment caps or freezes and high premiums.[6] California has an enrollment cap and only sells as many policies as it can finance with revenue from a tobacco tax (17,343 in 2000). There is a waiting list of about 4,000 individuals, each expected to wait about a year before being permitted to enroll in California's pool. Florida has an enrollment freeze. In a political settlement with the insurance industry (which protested the size of assessments for pool subsidy funding), Florida's pool has been closed to new enrollment since 1990 and enrollment has declined from a high of 7,500 in that year to 709 in 2000. A pool that features enrollment caps or freezes on HIPAA eligible individuals does not comply with HIPAA regulations, so the pools in Florida and California are not HIPAA pools and could not be unless changes were made to enrollment policy. Note, however, that to comply with HIPAA, a state cannot impose a cap on HIPAA eligibles but may impose one on enrollees eligible for other reasons (e.g., Louisiana and Illinois).

The most pervasive barrier to enrollment is affordability. In all states, high-risk pool premiums, while subsidized, are above standard rates. Only a small number of states offer additional subsidies for low-income individuals (Wisconsin, Connecticut, New Mexico, Oregon, Colorado). Consequently, for most people and in most states,

[6] Benefits also affect desirability of the product. However, due to inconsistent reporting of benefits across states and years, we were unable to analyze the relationship between benefits and enrollment.

high-risk pool premiums are above the already high non-group market rates, rendering high-risk pool coverage unaffordable for many who cannot obtain coverage in any other way.

To provide a sense of the financial burden imposed by pool premiums, Table 3 lists the percents of all individuals, the uninsured, and the uninsurable, for whom the pool premium[7] is greater than 25 percent and for whom it is less than 10 percent of family income. Although there is no standard of affordability, the 25 percent and 10 percent thresholds are intended to serve as rough guides. Table 3 shows, for example, that nationally, high-risk pool premiums are above 25 percent of family income (i.e., are unaffordable) for 10 percent of all individuals, 18 percent of the uninsured, and 29 percent of the uninsurable. By these standards, almost a third of the uninsurable are unable to afford high-risk pool coverage, although there are large variations by state with Minnesota's premiums being the most affordable to its population and Kansas' among the least. Note that only 22 of the 27 high-risk pool states are listed in Table 3 because premium data were not available for five states (Connecticut, Florida, Indiana, Louisiana, and Nebraska).

SIMULATING THE IMPLICATIONS OF LOWER PREMIUMS

Given that affordability is a significant barrier to enrollment, it seems likely that lowering premiums would raise enrollment. To evaluate how much enrollment could

[7] For consistency, we used a single, standard premium (that for a 35 year old, non-smoking male at the lowest deductible and with no optional features).

grow if premiums were reduced, we conducted a simulation of the impact of lowering all premiums to the level seen in the most generous states.[8]

To conduct the simulation, we first estimated the elasticity of enrollment with respect to premiums using regression methods. The log of enrollment was modeled as a function of the log of high-risk pool premium, the level of benefits, the size and income of the state's uninsured population, and the year. The unit of observation was the state/year. Note that we use measures of the *uninsured* population as opposed to the *uninsurable* population because the former is clearly identifiable in the CPS data while the latter is less so due to previously discussed limitations of CPS data.

We began with the specification

$$\begin{aligned}\log(\text{enrollment}_{s,t}) = {} & \alpha + \beta_1 \log(\text{premium}_{s,t}) + \beta_2 \text{lowest deductible}_{s,t} \\ & + \beta_3 \text{multiple deductibles}_{s,t} + \beta_4 \log(\text{uninsured population}_{s,t}) \\ & + \beta_5 \log(\text{per capita income of uninsured}_{s,t}) \\ & + \beta_6 \text{year}_t + \varepsilon_{s,t}\end{aligned} \tag{1}$$

where the subscript *s* indicates state, the subscript *t* indicates year and all the variables are as defined in Table 4.[9] Because the actual high-risk pool premium was not available for enough states and years to permit the estimation of equation (1), we used a proxy defined as

[8] Four states (California, Minnesota, New Mexico, and Oregon) set their premiums at 125 percent of the market rate. This is the standard used for the simulation. One state, Colorado, sets premiums at 118 percent of the market rate. States conduct market surveys to determine the market rate but we do not have access to these market surveys.

(2) proxy premium$_{s,t}$ = (pct. of market premium$_{s,t}$) x (per capita Medicare expenditure$_{s,t}$)

where per capita Medicare expenditure serves as a proxy for state-to-state/year-to-year variation in the actual market premium. The percent of market premium variable was established through interviews with state high-risk pool administrators and is often, but not always, set at the statutory maximum. In cases where administrators could not supply the percent of market premium, we used the statutory maximum.

One problem with this specification is that plan administrators might adjust premium levels in reaction to unexpected enrollment changes. In particular, if enrollment is higher than budgeted, plan administrators might raise premiums in an effort to keep enrollment and losses in line with legislative expectations. Thus, to the extent that enrollment changes might cause premium changes, the premium variable in equation (1) is endogenous. To address this endogeneity, we estimate equation (1) by instrumental variables using lagged values of the log of proxy premium, the percent of market premium, and per capita Medicare expenditure as instruments for the log of proxy premium.

Table 5 provides the estimated coefficients for (1) using the proxy premium of (2) and instrumental variables as described. Our estimate of elasticity of enrollment with respect to premium for this specification is -1.9, which is the value used in the simulation described below. A variety of other specifications were studied and comparable results were obtained.

[9] Three states are excluded when estimating coefficients: California (because enrollment is capped), Florida (because the pool is closed), and Texas (because it is not in equilibrium).

Other researchers have also consistently found that individual insurance purchase responds to price, although magnitudes vary according to the population studied and the source of price variation (Chernew, Frick, and McLaughlin, 1997; Gruber and Poterba, 1994; Ku and Coughlin, 2000; Marquis and Long, 1995; and Stearns and Mroz, 1996). In general, our elasticity is larger in magnitude as compared to those in the literature, which are typically below one in absolute value. However, the market for high-risk pools is unique in that potential enrollees are known to have higher expected health care utilization than the general public as well as being older, having lower incomes, and being less likely to be working. Moreover, high-risk pool enrollees typically pay the entire premium, in contrast to individuals with employer-based group insurance. So, it is reasonable to expect an elasticity larger in magnitude. In a study of disenrollment from eight states' high-risk pools, Stearns and Mroz (1996) observe that several-fold increases in disenrollment rates occurred at the time of selected premium increases, though the degree of response varied across states. There results are consistent with an elasticity the magnitude of the one we estimate.

As Table 6 shows, our preferred elasticity estimate of -1.9 implies that if premiums were set to no higher than 125 percent of market rate, enrollment would grow by 33 percent, nationally, reaching 11 percent of the uninsurable (up from 8 percent in 2000—see Table 2). Enrollment growth varies by state, depending on how far current pool premiums are from 125 percent of market rate.

Using premium, claims, and assessment funding figures from CFA, we can calculate a simple approximation of the cost of subsidizing all premiums to 125 percent of market rates. The cost has two components, increased subsidies and increased claims

volume due to higher enrollment. First, the per enrollee average additional premium subsidization is computed in each state as the difference between the current average premium and the new, lower average premium. Second, the per enrollee average annual claim figure is computed for each state. Multiplying these two figures by the total number of enrollees provides the total amount of financing required. From this total, the amount already provided by the state or from premium dollars is subtracted.[10] What remains is the annual cost of reducing premiums to 125 percent of market.[11]

An order of magnitude estimate of the annual additional cost of reducing premiums to 125 percent of market rate is about $105 million nationally, or about $2,800 per new enrollee per year. This figure assumes no change in the level of assessment funding currently provided in each state and does not include administrative costs. We acknowledge that a major challenge facing any policy maker wishing to finance high-risk pool expansion is how to do it without displacing current funding (a variant of the crowd-out problem[12]); however, our purpose here is only to develop a first approximation of what might be possible, postponing such implementation issues.

One additional lesson emerges from this simulation. As Table 6 indicates, even when premiums are fixed at approximately the same level relative to the market, states differ dramatically with respect to the proportion of the uninsurable that would be

[10] Decomposing total cost into components algebraically, one finds that there is one more term subtracted to arrive that the final cost estimate: the change in the number of enrollees times the original, higher premium

[11] This method does not attempt to be precise about the level of subsidy spending in each state for two reasons. First, subsidy spending (including assessments, general revenue, and other sources) does not track claims on an annual basis—under-financed losses in one year are frequently offset by additional revenues in following years. Second, subsidy spending may occur in forms not easily accounted for, for example, in the form of low-income premium subsidies paid from general revenue.

covered. Six states are projected to cover between 20 and 55 percent, eight states are between 10 and 19 percent, and the remaining states are in the low, single digits. These results underscore the fact that considerations other than premium levels have substantial effects on enrollment. Some of these factors could be circumstantial, such as the relative availability of charity care, and some could reflect characteristics of the high-risk pools, such as the extent of marketing and the attractiveness of benefits.

Although this simulation was intended only as a rough approximation, several cautions still apply. First, the proxy premium used in our preferred specification implicitly assumes that per capita Medicare spending is closely correlated with market rates for individual insurance policies. We acknowledge that this assumption is impossible to verify; nevertheless, some support can be drawn from the fact that elasticity estimates were similar across specifications using actual premiums and proxy premiums. Second, we acknowledge that benefits influence enrollment but we were only able to include a few covariates to control for differences in benefits due to limitations of sample size and inconsistent reporting of benefits across states and years. The fact that specifications including state fixed effects produced similar elasticity estimates partially mitigates this concern, provided the most important differences in benefits between states were stable through time. Finally, our definition of uninsurable is by necessity somewhat arbitrary. It is likely that a different definition would produce different results, particularly if the chosen definition included substantially more individuals.

[12] The term "crowd out" is typically applied to situations where expanded public services (e.g., Medicaid) cause privately financed services to be reduced (see Gruber, 2000).

POLICY DISCUSSION

Other than encouraging the establishment of high-risk pools, the influence of federal regulation on access to those pools has been modest to date. Of the two chief barriers to access, enrollment caps or freezes and affordability, HIPAA only addresses the first one, establishing that a high-risk pool must not impose restrictions on the number of HIPAA eligible enrollees in order to be an acceptable portability mechanism (25 of the 27 high-risk pools in operation in 2000 satisfy this criterion, though only 23 are HIPAA pools).

Most states do not provide additional premium subsidization for low-income pool applicants. Therefore, for much of the high-risk target population (the medically uninsurable) high-risk pool coverage is unaffordable. Federal regulation regarding the degree of affordability of high-risk pools could encourage additional enrollment and lead to an increase in coverage for the uninsurable population.

Of course, the benefits of lower premiums come at a cost. For about $105 million in additional premium subsidization, high-risk pool enrollment could be expected to grow by about 33 percent and increase coverage of the uninsurable population from 8 percent to 11 percent. While this increase may be modest, this is a population most in need of coverage and likely to rely on substantial amounts of high-cost emergency care if uninsured.

The fact that substantial projected enrollment variation remains among states after adjusting for premium differences suggests that significant enrollment growth could be encouraged even without additional premium subsidies. In the course of their regular

reviews of state alternative mechanisms under HIPAA, it would be reasonable for regulators to focus their attention on the operations of pools with relatively low enrollment, controlling for premium. In addition to improving understanding of the factors that explain enrollment variations, it is possible that such a ranking by itself would serve as an effective incentive for state policymakers and pool administrators to seek to minimize barriers to access.

For the purposes of this discussion, we have sidestepped several challenging issues associated with an increase in the federal role. Federal regulation involves questions of federal versus state authority, funding for the federal activity, information requirements for monitoring, among other things. Moreover, to be effective regulators must have strategies to prevent unintended consequences such as the use of federal money to underwrite current costs, rather than expand coverage. Thus, the results of this paper should be interpreted as an example of what is possible under ideal circumstances in which these other issues are resolved.

Given the prevailing fiscal climate and the political challenge of simply maintaining the current level of high-risk pool funding, additional funding is unlikely to come from state sources. Federal action, therefore, appears to be the most feasible instrument of expansion in the near future. This study shows that, building on the foundation established by HIPAA, the combination of new federal funding and federal affordability and enrollment guidelines could significantly expand access to health insurance for those currently unable to acquire it.

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REFERENCES

Chernew, Michael, Devin Frick, and Catherine G. McLaughlin, "The Demand for Health Insurance Coverage by Low-Income Workers: Can Reduced Premiums Achieve Full Coverage?" *Health Services Research*, 32:4, October 1997.

Communicating for Agriculture, Inc., Comprehensive Health Insurance for High-Risk Individuals, 9th-15th editions, Fergus Falls, MN, 1995-2001/2002.

Covering the Uninsured, "Two Million Americans Lost Their Health Insurance in 2001; Largest One-Year Increase in Nearly a Decade," Press release prepared by Families USA for a Robert Wood Johnson Foundation-sponsored partnership, Covering the Uninsured, February 12, 2002.

Families USA Media Center, "New Unemployment Number Indicates Over 529,000 Laid-Off Workers Lost Health Coverage from September through November," December 7, 2001.

United States General Accounting Office, "Health Insurance Regulation: Variation in Recent State Small Employer Health Insurance Reforms," Fact Sheet for the Chairman, Subcommittee on Employer-Employee Relations, Committee on Economic and Educational Opportunities, House of Representatives, June 1995.

Gruber, Jonathan and James Poterba, "Tax Incentives and the Decision to Purchase Health Insurance: Evidence from the Self-Employed, *The Quarterly Journal of Economics*, 109:3, August 1994.

Gruber, Jonathan, "Health Insurance and the Labor Market," in A.J. Culyer, and J.P. Newhouse, eds. *Handbook of Health Economics Vol. 1A*, Amsterdam: Elsevier Science, 2000

Hunt, S., "Individual Health Insurance Options for California," study by Pricewaterhouse Coopers for the California Managed Risk Medical Insurance Board, September 2000.

Ku, Leighton, and Teresa Coughlin, "Sliding Scale Premium Health Insurance Programs: Four States Experience", *Inquiry*, 36:4, Winter 1999-2000.

Marquis, Susan, and Steven Long, "Worker Demand for Health Insurance in the Non-Group Market," *Journal of Health Economics*, 14:1, 1995.

Mills, R. and S. Bhandari, "Health Insurance Coverage in the United States: 2002," U.S. Census Bureau Current Population Reports, P60-223, September 2003.

Simon, S., "Medicaid Ax Is Falling as Recession Saps States," *Los Angeles Times*, March 5, 2002.

Sloane, T., “Medicaid Mahem; State Budget Shortfalls Will Leave Beneficiaries, Providers in Lurch,” *Modern Healthcare*, July 7, 2003.

Stearns, Sally C., and Thomas A. Mroz, "Premium Increases and Disenrollment from State Risk Pools," *Inquiry*, 32, Winter 1995/96.

U.S. Bureau of the Census, “Chances of Having Health Insurance Increase, Reversing 12-Year Trend, Census Bureau Says,” *United States Department of Commerce News*, September 28, 2000.

U.S. Bureau of the Census, “More People Have Health Insurance, Census Bureau Reports,” *United States Department of Commerce News*, September 28, 2001.

U.S. Bureau of the Census, Statistical Abstract of the United States, 1995-2001 editions.

Table 1: Number of High-Risk Pools and Number of Enrollees, 1981-2000

Year	*Number of Pools*	*Number of HIPAA Pools*	*Total Number of Enrollees*
1981	3	0	6,668
1982	5	0	9,199
1983	6	0	15,448
1984	6	0	19,602
1985	6	0	21,536
1986	7	0	21,833
1987	10	0	24,231
1988	12	0	33,301
1989	13	0	53,458
1990	15	0	68,263
1991	17	0	77,683
1992	22	0	96,245
1993	24	0	101,623
1994	24	0	95,536
1995	23	0	90,405
1996	25	0	86,723
1997	25	11	86,555
1998	27	22	92,101
1999	27	22	104,918
2000	27	23	115,688

Sources: Communicating for Agriculture, Inc., "Comprehensive Health Insurance for High-Risk Individuals," (2001/2002).

Table 2: High-Risk Pool Enrollees by State in Year 2000

State	*High-Risk Pool Enrollees*		
	Total	*Relative to Number Uninsured*	*Relative to Number Uninsurable*
Alabama	2,431	0.37%	5%
Alaska	395	0.33%	4%
Arkansas	2,270	0.56%	7%
California	17,343	0.25%	6%
Colorado	1,536	0.25%	5%
Connecticut	1,719	0.51%	8%
Florida	709	0.03%	1%
Illinois	10,120	0.58%	10%
Indiana	6,475	0.89%	11%
Iowa	271	0.11%	2%
Kansas	1,283	0.43%	6%
Louisiana	1,088	0.13%	2%
Minnesota	25,892	6.14%	54%
Mississippi	2,231	0.49%	7%
Missouri	889	0.16%	3%
Montana	1,687	0.99%	12%
Nebraska	5,023	3.03%	35%
New Mexico	1,063	0.25%	5%
North Dakota	1,307	1.68%	18%
Oklahoma	1,922	0.32%	3%
Oregon	5,833	1.22%	21%
South Carolina	1,451	0.25%	3%
Texas	8,600	0.18%	4%
Utah	1,106	0.37%	5%
Washington	2,333	0.29%	4%
Wisconsin	10,042	1.90%	21%
Wyoming	669	0.87%	11%
TOTAL	115,688	0.45%	8%

Sources: Communicating for Agriculture, Inc., "Comprehensive Health Insurance for High-Risk Individuals," (2001/2002), U.S. Census Bureau, Current Population Survey (1999-2001).

Table 3: Percent of Population for Whom Premium Was Either Less Than 10 Percent or More Than 25 Percent of Family Income in Year 2000 for Selected States

State	Premium[(1)]	All Individuals		Uninsured		Uninsurable	
		>25%	<10%	>25%	<10%	>25%	<10%
Alabama	$192	9%	72%	18%	54%	31%	36%
Alaska	$400	14%	57%	26%	35%	36%	25%
Arkansas	$153	6%	77%	11%	61%	14%	39%
California	$280	12%	62%	19%	42%	30%	36%
Colorado	$214	6%	79%	12%	56%	22%	50%
Illinois	$292	11%	67%	20%	46%	33%	28%
Iowa	$273	9%	65%	18%	35%	27%	27%
Kansas	$382	18%	50%	37%	24%	51%	24%
Minnesota	$128	2%	91%	6%	82%	6%	86%
Mississippi	$215	11%	65%	18%	46%	33%	46%
Missouri	$267	10%	69%	16%	49%	21%	50%
Montana	$252	14%	58%	26%	36%	34%	24%
New Mexico	$202	10%	66%	16%	49%	23%	48%
North Dakota	$223	9%	65%	15%	46%	26%	38%
Oklahoma	$224	10%	67%	15%	50%	25%	40%
Oregon	$232	10%	69%	20%	45%	28%	26%
South Carolina	$268	10%	63%	20%	45%	35%	29%
Texas	$237	10%	67%	17%	47%	24%	38%
Utah	$272	7%	73%	16%	52%	25%	44%
Washington	$266	10%	69%	20%	49%	28%	41%
Wisconsin	$196	5%	79%	16%	57%	22%	55%
Wyoming	$179	6%	79%	13%	63%	20%	57%
ALL OF THE ABOVE STATES		10%	67%	18%	46%	29%	37%

(1) Premium in 2001 dollars for a 35 year old, non-smoking male at the lowest deductible and no optional features as reported by the states to Communicating for Agriculture. Includes 22 states with high-risk pools and available premium data.

Sources: Communicating for Agriculture, Inc., "Comprehensive Health Insurance for High-Risk Individuals," (2001/2002), U.S. Census Bureau, Current Population Survey (1999-2001).

Table 4: Definition of Variables (N = 137, except where indicated)

Variable[1]	*Definition/Comment*	*Mean*	*St. Dev.*	*Min.*	*Max.*
log(enrollment$_{s,t}$)	Log of high-risk pool enrollment.	7.33	1.10	5.16	10.32
log(premium$_{s,t}$)	Log of high-risk pool premium. Only available for 58 observations.	5.39	0.31	4.75	6.05
log(proxy premium$_{s,t}$)[3]	See equation (2).	8.89	0.27	8.42	9.68
pct. of market premium$_{s,t}$	High-risk pool premium as percent of market premium. See equation (2).	1.52	0.23	1.18	2.00
per capita Medicare expenditure$_{s,t}$	Used as proxy for market premium. See equation (2).	4,912	924	3,139	8,002
lowest deductible$_{s,t}$	Controls for generosity of benefits.[2]	543.80	235.10	0.00	1,000
multiple deductibles$_{s,t}$	Binary variable; controls for generosity of benefits.[2]	0.85	0.35	0.00	1.00
log(uninsured population$_{s,t}$)	Controls for demand.	12.81	0.78	10.87	14.43
log(per capita family income of uninsured$_{s,y}$)	Controls for demand.	10.46	0.18	10.08	10.86
year$_t$	Controls for trends in enrollment and premiums	1,997.58	1.70	1995	2000
lag log(proxy premium$_{s,t}$) [3]	Used as an additional instrumental variable for log(proxy premium$_{s,t}$).	8.86	0.27	8.20	9.68
lag pct. of market premium$_{s,t}$[3]	Used as an additional instrumental variable for log(proxy premium$_{s,t}$).	1.52	0.22	1.25	2.00
lag per capita Medicare expenditure$_{s,t}$[3]	Used as an additional instrumental variable for log(proxy premium$_{s,t}$).	4,775	992	2,425	8,002

(1) Subscript *s* indexes states (Alabama, Alaska, Arkansas, Colorado, Connecticut, Illinois, Indiana, Iowa, Kansas, Louisiana, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Oregon, South Carolina, Utah, Washington, Wisconsin, Wyoming). Subscript *t* indexes years (1995-2000). Not every state has an observation in every year. Three states are excluded: California (enrollment is capped), Florida (pool is closed), and Texas (not in equilibrium).

(2) Benefits vary by state and year and were not consistently provided in our data sources. Deductible levels, however, were consistently provided and serve as a measure of plan generosity.

(3) As described in the text, to remove endogeneity, we instrumented for log(proxy premium$_{s,t}$). The instruments were lag log(proxy premium$_{s,t}$), lag pct. of market premium$_{s,t}$, and lag per capita Medicare expenditure$_{s,t}$.

Sources: Communicating for Agriculture, Inc., "Comprehensive Health Insurance for High-Risk Individuals," (1995-2001/2002), U.S. Census Bureau, Statistical Abstract of the United States (1995-2001), U.S. Census Bureau, Current Population Survey (1999-2001).

Table 5: Estimation Results (Dependent Variable log(enrollment$_{s,t}$)) (1)

Variable	*Coefficient (Standard Error)*
log(proxy premium$_{s,t}$)	-1.90*** (0.41)
log(premium$_{s,t}$)	N/A
lowest deductible$_{s,t}$	0.000091 (0.00040)
multiple deductibles$_{s,t}$	-0.23 (0.25)
log(uninsured population$_{s,t}$)	0.77*** (0.12)
log(per capita family income of uninsured$_{s,t}$)	1.03* (0.52)
year$_t$	0.67 (0.051)
constant	-129 (100)
	N = 137, R^2 = 0.25

(1) As described in the text, to remove endogeneity, we instrumented for log(proxy premium$_{s,t}$). The instruments were lag log(proxy premium$_{s,t}$), lag pct. of market premium$_{s,t}$, and lag per capita Medicare expenditure$_{s,t}$.

(2) Three states are excluded: California (enrollment is capped), Florida (pool is closed), and Texas (not in equilibrium).

* Significant at the 5% level..

** Significant at the 1% level.

*** Significant at the 0.1% level.

Sources: Communicating for Agriculture, Inc., "Comprehensive Health Insurance for High-Risk Individuals," (1995-2001/2002), U.S. Census Bureau, Statistical Abstract of the United States (1995-2001), U.S. Census Bureau, Current Population Survey (1999-2001).

Table 6: Predicted Effect of Reduction in Premiums to 125% of Market Rate by State in 2000

State	Premium as Percent of Market	Year 2000 Enrollment	Simulated Enrollment[3]	Simulated Enrollment Relative to		
				Actual Enrollment	Uninsured	Uninsurable
Alabama	175%	2,431	4,612	190%	1%	10%
Alaska	200%	395	966	245%	1%	11%
Arkansas	150%	2,270	3,212	141%	1%	9%
California[1,2]	125%	17,343	17,343	100%	0%	6%
Colorado[1]	118%	1,536	1,536	100%	0%	5%
Connecticut	150%	1,719	2,432	141%	1%	12%
Florida[2]	250%	709	709	100%	0%	1%
Illinois	150%	10,120	14,318	141%	1%	14%
Indiana	150%	6,475	9,161	141%	1%	16%
Iowa	150%	271	383	141%	0%	3%
Kansas	150%	1,283	1,815	141%	1%	8%
Louisiana	200%	1,088	2,662	245%	0%	5%
Minnesota[1]	125%	25,892	25,892	100%	6%	54%
Mississippi	175%	2,231	4,233	190%	1%	13%
Missouri	200%	889	2,175	245%	0%	6%
Montana	150%	1,687	2,387	141%	1%	16%
Nebraska	135%	5,023	5,815	116%	4%	41%
New Mexico[1]	125%	1,063	1,063	100%	0%	5%
North Dakota	135%	1,307	1,513	116%	2%	21%
Oklahoma	140%	1,922	2,385	124%	0%	4%
Oregon[1]	125%	5,833	5,833	100%	1%	21%
South Carolina	200%	1,451	3,550	245%	1%	7%
Texas[2]	165%	8,600	8,600	100%	0%	4%
Utah	150%	1,106	1,565	141%	1%	7%
Washington	150%	2,333	3,301	141%	0%	6%
Wisconsin	200%	10,042	24,567	245%	5%	51%
Wyoming	200%	669	1,637	245%	2%	27%
TOTALS		115,688	153,666	133%	1%	11%

(1) Premiums in these states are already at or below 125 percent of market rates. Therefore, we did not simulate a change in premium in these states and, thus, there is no change in enrollment.

(2) These states were excluded in estimating the elasticity of enrollment with respect to premium: California because enrollment is capped by available funds, Florida because there is an enrollment freeze, and Texas because it is not in equilibrium (enrollment has grown rapidly at start-up).

(3) Enrollment simulated using log(enrollment) = (-1.9) log(premium).

Sources: Communicating for Agriculture, Inc., "Comprehensive Health Insurance for High-Risk Individuals," (1995-2001/2002), U.S. Census Bureau, Statistical Abstract of the United States (1995-2001), U.S. Census Bureau, Current Population Survey (1999-2001).