THE ECONOMIC EFFECTS OF STATE-MANDATED HEALTH INSURANCE BENEFITS

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April 2003

I. INTRODUCTION

There are currently 41.2 million Americans without health insurance, and that number continues to rise. Once perceived as primarily a problem of the poor and unemployed, the health care crisis has made its way up the income ladder and is starting to affect middle-class people with full-time jobs (Broder, 2002). According to recently released Census Bureau figures, six out of ten people without insurance have full-time jobs, and another 15 percent work part-time or part of the year. Moreover, of the 1.4 million Americans who lost their health insurance coverage last year, some 800,000 of them had annual incomes over $75,000.

The rising cost of employer-based coverage is discouraging firms from offering health benefits, and those that are willing to provide coverage are shifting the costs onto their employees through higher premiums and co-payments, and lower wages. This has ultimately resulted in more and more families being unable to afford the medical treatments they require.

One common explanation for the soaring cost of health insurance and the escalating number of uninsured is the proliferation of state-mandated health benefits. These mandates are designed to provide the insured with more comprehensive coverage by forcing employers to cover specific treatments or benefits, such as drug-abuse treatment, chiropractic services, or marriage counseling. Opponents of state mandates insist that requiring coverage of a wider range of benefits undeniably makes health insurance more expensive and causes employers that would have desired to offer a "barebones" health insurance policy to cancel their coverage (Gruber, 1994).

Thus, an important question to ask is: if state mandates have such adverse effects, then why are they so pervasive? In answering this question it is important to analyze the economic

effects of these regulations in order to determine the extent to which state mandates contribute to the health care crisis.

In this paper, I examine the impact of certain state-mandated health benefits on per-capita health care spending and the percentage uninsured. Using cross-sectional analysis and data from all 50 U.S. states, I find that, while four of the five state mandates employed in this paper have no significant impact on per-capita health care expenditures, mandated coverage for chiropractic services has a strong positive effect. Other factors that lead to higher spending include rising per-capita income, an increase in physician rate, and a higher percentage of the population over the age of 65. In addition, I find that elevated poverty rates are a prime contributor to the uninsured problem, while more per-capita physicians and a greater percentage of the population over the age of 65 both decreased the number of people without coverage. Finally, each of the five state mandates which I focus on are unimportant in explaining the percentage of uninsured.

II. BACKGROUND

A number of studies have investigated the economic effects of state mandates. Jensen and Morrisey (1990) used a hedonic price technique to determine the effects specific mandated benefits have on the price of family coverage. Results of their study show that—with few exceptions—the inclusion of mandated benefits increased the price of health insurance. In particular, drug abuse treatment, coverage for psychologist visits, and coverage for psychiatric hospitals increased premiums substantially in mid-sized and large firms. This suggests that while state mandates succeed in increasing the scope of coverage for employees, the added benefits come at a price.

So who ends up paying for the additional benefits? Flynn et al. (1997) explain that employers will attempt to offset the increased cost of providing health insurance by passing the costs onto workers in the form of reduced wages or nonwage fringe benefits.

Often times, however, employers cannot pass the buck to employees due to the presence of wage rigidities. Minimum wage laws and restrictions that require firms to pay different workers the same wage regardless of the cost of providing benefits are two examples of wage rigidities that may prevent firms from shifting the costs to employees (Summers 1989). This type of inflexibility is likely to create unemployment and cause employers to seek to hire workers with lower benefit costs.[1]

Another option firms have is to circumvent the costs of state mandates by self-insuring. Firms that self-insure are exempt from state insurance laws under the Employee Retirement Income Security Act (ERISA). Research conducted by Jensen and Gabel (1989) indicates that about two-thirds of the employers who converted to self-insurance did so to avoid the added costs of state regulations.

Self-insurance, however, is not a viable option for all employers. When a firm self-insures, it becomes its own risk pool. And since insurance risk declines as the size of the insurance pool grows, small firms will face more risk in self-insuring than larger firms. This, in turn, implies that the cost of self-insuring is greater for small firms. Therefore, in an attempt to avoid the costs of state mandates small firms may decide to drop health insurance coverage for employees altogether (Jensen and Morrisey, 1999). In fact, research shows that an estimated one

[1] For example, the expected cost of parental leave is greater for women than men. If wages could freely adjust, these differences in expected benefit costs would be offset by differences in wages. If such differences are precluded, however, firms will seek to hire more men than women. It is thus possible that mandated benefit programs could work against the interests of those who most require the benefit being offered (Summers 1989).

out of six small firms that are not offering health benefits would do so in an environment free of state-mandated benefits (Jensen and Gabel, 1989).

If state mandates cause firms to drop coverage, it would follow that a portion of the nation's uninsured problem can be attributed to the presence of such mandates. Using the state as the observational unit, Goodman and Musgrave (1988) found that each mandate increased the percent of the state's population without insurance by .17% to .28%. The study concluded that between 14% and 25% of the nation's uninsured lacked coverage due to mandated benefits. A later study conducted by Sloan and Conover (1998) shows that eliminating mandates entirely would reduce the number of uninsured by 4% from 18% to 14% of the non-elderly population. These results are consistent with Goodman and Musgrave (1988), concluding that benefit mandates are responsible for one-fifth to one-quarter of the uninsured problem.

Gruber (1994) focuses on five high-cost mandates, which account for about 50% of the total cost of all mandated benefits, and their impact on the insurance decisions of small firms (less than 100 employees). Contrary to the aforementioned studies, Gruber (1994) found that state mandates are not a major cause of the low rate of employee health insurance coverage. The author submits that the lack of a displacement effect is due to the fact that the mandates are not binding (i.e. firms would provide these benefits even in the absence of state mandates).

Consequently, two competing stories emerge within the literature about the economic effects of state-mandated health benefits. Research shows that firms will attempt to avoid the costs of mandated benefits by self-insuring, passing the added costs onto workers through higher premiums and lower wages, or dropping health insurance coverage altogether (Goodman and Musgrave, 1988; Jensen and Gabel, 1989; Flynn et al., 1997; Sloan and Conover, 1998; Jensen

and Morrisey, 1999). However, Gruber (1994) finds that state mandates have little effect on the rate of uninsured. This divergence creates an impetus for further analysis.

This study uses two cross-sectional analyses to examine data for all 50 states for the year 1998 in an attempt to explain whether or not state mandates have a significant effect on per-capita health care spending or the number of uninsured.

III. DATA AND EMPIRICAL FRAMEWORK

Data for this study was collected the Statistical Abstract of the United States (percentage of people without insurance, per-capita income, poverty rate, percentage of the population over 65, physicians per 100,000 in population, and population), and the Centers for Medicare and Medicaid Services website (health care spending). Data on the state mandates comes from the Blue Cross/Blue Shield Association (2001). For the five mandates which this study concentrates, I have corroborated this data with individual state legislative records.

The empirical work focuses on the same set of high-cost mandates employed by Gruber (1994): mandated minimum benefits for alcoholism treatment, drug abuse treatment, and mental illness; mandated coverage for chiropractic services; and mandated continuation of health insurance benefits for terminated employees and their dependents. The philosophy behind this framework, as Gruber (1994) points out, is that these five mandates account for about 50% of the total cost of all mandated benefits, and entering a full set of 70 individual mandate dummies would cause serious collinearity problems. These mandates are represented as dummy variables in each regression. The dummy is equal to one if the state has passed a mandate before 1998 and zero otherwise.

In addition to the five mandates, I also control for per-capita income, poverty rate, physician rate, and percentage of the population over the age of 65. Since health care is likely a

normal good, we expect that higher per-capita income will lead to higher per-capita health care spending. We also expect that higher per-capita income will reduce the number of people without insurance because coverage will be more affordable, and higher paying jobs are more likely to include health benefit packages. The opposite effect may occur for high poverty rates. That is, a higher poverty rate will result in less per-capita health care spending, and (barring a sizeable increase in Medicaid eligibility) a higher percentage of the population without coverage.

A high physician rate would likely increase health care spending because physicians will migrate to areas where demand for medical services is high. We can also expect that an increase in the number of physicians per-capita will result in a higher rate of coverage. Also, because the elderly are more likely to have medical problems, we anticipate that the percentage of the population over the age of 65 is positively correlated with per-capita health care expenditures. The existence of Medicare, however, leads us to believe that this variable is inversely related to the percentage uninsured.

IV. RESULTS

Table 1 reports means and standard deviations for the dependent and independent variables. There is substantial disparity in the percentage uninsured across the states. In 1998, the percentage of the population without health insurance was highest in states such as Texas (24.5%), Arkansas (24.2%), Nevada (21.2%), and New Mexico (21.1%). Meanwhile, Nebraska (9%), Minnesota (9.3%), Iowa (9.3%), and Vermont (9.9%) had the lowest uninsured rates. Per-capita health care expenditures also varied greatly in 1998. Health care spending was highest in Massachusetts ($4,912), Connecticut ($4,723), New York ($4,683), and Rhode Island ($4,453), and lowest in Idaho ($2,781), Utah ($2,825), Wyoming ($2,906), and New Mexico ($3,088). In

addition, Table 1 confirms that, in 1998, many states had legislation in place mandating the inclusion of the five benefits utilized in this study.

Table 2 shows the results of the regressions on per-capita health care spending, and Table 3 shows the results of the regressions on percentage uninsured. The results in both tables are quite robust across a number of specifications. Equation (1) includes all variables. Since per-capita income is highly correlated to the physician rate variable, we estimate equations (2) and (3) using a two-stage least squares procedure. Consequently, for these two specifications, the physician rate variable considers only the variation in physician rate that is not explained by per-capita income. Equation (4) removes physician rate, while equation (5) removes per-capita income. Furthermore, drug-abuse and alcoholism treatment dummy variables were also collinear. Therefore, equation (2) deletes drug-abuse treatment, equation (3) deletes alcoholism treatment and equations (4) and (5) were both estimated without drug-abuse treatment. A very modest correlation problem also exists between poverty rate and per-capita income; however, removing either variable did not have a substantial impact on the regression results.

The estimates in Table 2 show that mandated minimum benefits for alcoholism treatment, drug abuse treatment, and mental illness; and mandated continuation of health insurance benefits for terminated employees and their dependents do not have a significant effect on per-capita health care spending. Mandated coverage for chiropractic services, however, has a significant positive effect on health care spending in four out of the five specifications. Moreover, the magnitude of the effect of the chiropractic services mandate on spending is considerable. The existence of the chiropractic services mandate results in a $175 to $215 increase in per-capita health care spending. Using the mean per-capita health care spending as the basis for comparison, the chiropractic services mandate raises health care spending by about 5%.

The results show that other factors such as per-capita income, physician rate, and the percentage of the population over the age of 65 also have a significant effect on health care expenditures. Table 2 provides strong evidence that health care is indeed a normal good. That is, a $1,000 increase in per-capita income raises per-capita health care spending by about $75. Another factor that has a significant positive effect on health care expenditures is the physician rate. A one unit increase in the number of physicians per 100,000 in population results in a $4 to $5 increase in per-capita health care spending. Similarly, a one percentage point increase in the population over the age of 65 increases per-capita health care spending by $74 to $106.

The results in Table 3 report that all five mandates are insignificant in explaining the percentage uninsured. A possible explanation is that the mandates are not binding and, therefore, do not impact a firm's decision to offer health insurance. Another reason could be that the employees' valuation of the added benefits is equal (or close) to their cost to the employer, so that they are willing to pay for the mandates through lower wages (Gruber, 1994).

Factors that do, on the other hand, impact the number of uninsured are physician rate, poverty rate, and the percentage of the population over the age of 65. A one unit increase in the number of physicians per 100,000 in population will result in a .030 decrease in the percentage uninsured. The estimates in Table 3 show that the poverty rate is a significant contributor to the uninsured problem. A one percent increase in the poverty rate raises the percentage uninsured by .70 to .95. As predicted, the percentage of the population of the age of 65 reduces the number of people without coverage. A one percentage point increase in this population will lead to a .48 to .65 decrease in the percentage uninsured.

V. CONCLUSION

An exceedingly popular explanation for the rising costs of health insurance and the growing number of people without coverage is the proliferation of state-mandated health benefits. Some studies indicate that state mandates are responsible for as much as one-fifth to one-quarter of the uninsured problem (Sloan and Conover, 1998; Goodman and Musgrave, 1988). This suggests that a very easy way to alleviate the uninsured problem in the United States is to eliminate state mandates. Competing research, however, shows that state mandates have little effect on the rate of insurance coverage (Gruber 1994). This paper provides further analysis on economic effects of state-mandated health benefits.

The results of this study show that state regulations do not have an important effect on the number of uninsured. However, while state mandates may not be the culprit in the uninsured problem, poverty rate seems to be a main contributor. On the other hand, rises in physician rate and the percentage of the population over the age of 65 both drive down the percentage uninsured.

In explaining the increasing costs of health insurance, per-capita income, physician rate, and the percentage of the population over 65 are significant factors. Mandated coverage for drug-abuse treatment, alcoholism treatment, mental illnesses, and mandated continuation of coverage for terminated employees and their dependents did not have a significant impact on per-capita health care spending. However, mandated coverage for chiropractic services had a substantial positive effect. One possible explanation for this effect could be that employees are more likely to take advantage of chiropractic services simply because it is covered. This "luxury service effect" does not seem likely to occur for the other four benefits. Moreover, back-pain is

often a chronic disorder, requiring frequent chiropractor visits, whereas employees requiring drug-abuse treatment may only utilize a clinic's services once or twice in their lifetime.

Table 1: Means and Standard Deviations

Variable	Mean	Std Dev.	Minimum	Maximum
% Uninsured	15.08	3.98	9	24.5
Per-capita Spending	3673.16	458.55	2781.94	4912.84
Per-capita Income	25289.20	3669.04	19213	36275
Poverty Rate	12.20	3.14	7.2	20.4
% Over 65	12.70	1.96	5.5	18.3
Physician Rate	233.80	56.39	154	412
Alcoholism	.50	.51	0	1
Drug-abuse	.38	.49	0	1
Mental Health	.38	.49	0	1
Chiropractor	.78	.42	0	1
Continuation of Coverage	.62	.49	0	1

Table 2: Regression Results for Per-capita Health Care Spending[1]

Variable	(1)	(2)	(3)	(4)	(5)
Constant	581.94 (522.55)	441.07 (507.31)	447.93 (498.42)	-186.16 (549.14)	1426.89*** (303.96)
Per-capita Income[2]	33.01* (17.56)	75.21*** (12.82)	74.32*** (12.26)	78.98*** (14.65)	
Physician Rate[3]	3.92*** (1.02)	3.82*** (1.01)	3.86*** (0.99)		5.16*** (0.76)
Poverty Rate[4]	6.65 (14.62)	6.65 (14.61)	6.43 (14.45)	20.76 (16.18)	-8.96 (12.56)
% Over 65[5]	83.22*** (19.68)	82.44*** (19.65)	83.10*** (19.47)	106.45*** (21.30)	74.42*** (19.83)
Alcoholism[6]	-33.62 (96.58)	19.73 (79.23)		65.71 (89.72)	38.66 (81.15)
Drug-abuse[7]	92.56 (95.67)		73.55 (77.70)		
Mental Health[8]	48.04 (81.91)	65.36 (79.87)	47.39 (81.00)	91.34 (91.19)	71.47 (82.36)
Chiropractic[9]	175.30* (88.17)	183.77** (87.66)	177.50** (86.99)	215.59** (100.00)	172.07 (90.26)
Continuation of Coverage[10]	43.32 (73.90)	37.26 (73.58)	43.28 (73.12)	32.72 (84.31)	36.24 (17.94)
	n = 50 R^2 = 0.7584 Adj-R^2 = 0.7041 F = 13.95 Pr > F = .0001	n = 50 R^2 = 0.7528 Adj-R^2 = 0.7045 F = 15.61 Pr > F = .0001	n = 50 R^2 = 0.7577 Adj-R^2 = 0.7104 F = 16.03 Pr > F = .0001	n = 50 R^2 = 0.6674 Adj-R^2 = 0.6119 F = 12.04 Pr > F = .0001	n = 50 R^2 = 0.7302 Adj-R^2 = 0.6853 F = 16.24 Pr > F = .0001

Standard errors in parentheses. *** = significant at 0.01; ** = significant at 0.05; * = significant at 0.1.

[1] Per-capita Health Care Spending: Expenditures per-capita for each state in year 1998.

[2] Per-capita Income: Personal income per-capita (in thousands of 1996 dollars) for each state in year 1998.

[3] Physician Rate: Number of physicians per 100,000 in population for each state in year 1998. In (2) and (3) the physician rate variable considers only the variation in physician rate that is not explained by per-capita income.

[4] Poverty Rate: Percentage of the population under the poverty level for each state in year 1998.

[5] % Over 65: Percentage of the population 65 years and older for each state in the year 1998.

[6] Alcoholism: Existence of mandate requiring coverage for alcoholism treatment for each state in 1998.

[7] Drug-abuse: Existence of mandate requiring coverage for drug-abuse treatment for each state in 1998.

[8] Mental Health: Existence of mandate requiring coverage for mental illnesses for each state in 1998.

[9] Chiropractic: Existence of mandate requiring coverage for chiropractic services for each state in 1998.

[10] Continuation of Coverage: Existence of mandate requiring continuation of health insurance benefits for terminated employees and their dependents for each state in 1998.

Table 3: Regression Results for Percentage Uninsured[1]

Variable	(1)	(2)	(3)	(4)	(5)
Constant	1.96 (6.10)	3.11 (5.86)	3.82 (5.89)	7.65 (5.83)	15.47*** (3.65)
Per-capita Income[2]	0.544*** (.205)	0.248* (.148)	0.209 (.145)	0.221 (0.156)	
Physician Rate[3]	-0.027** (0.012)	-0.028** (0.012)	-0.030*** (0.012)		-0.006 (0.009)
Poverty Rate[4]	0.954*** (0.171)	0.95*** (0.17)	0.95*** (0.17)	0.85*** (0.17)	0.70*** (0.15)
% Over 65 years[5]	-0.473** (0.230)	-0.48** (0.23)	-0.48** (0.23)	-0.65*** (0.23)	0.61*** (0.24)
Alcoholism[6]	-1.15 (1.13)	-0.94 (0.92)		-1.28 (0.95)	-0.64 (0.97)
Drug-abuse[7]	0.357 (1.12)		-0.29 (0.92)		
Mental Health[8]	-0.65 (0.96)	-0.58 (0.92)	-0.67 (0.96)	-0.77 (0.97)	-0.48 (0.99)
Chiropractic[9]	0.78 (1.03)	0.81 (1.01)	0.85 (1.03)	0.58 (1.06)	0.62 (1.08)
Continuation of Coverage[10]	0.27 (0.86)	0.25 (0.85)	0.27 (0.86)	0.28 (0.89)	0.23 (0.91)
	n = 50 R^2 = 0.5645 Adj-R^2 = 0.4665 F = 5.76 Pr > F = .0001	n = 50 R^2 = 0.5634 Adj-R^2 = 0.4782 F = 6.61 Pr > F = .0001	n = 50 R^2 = 0.5532 Adj-R^2 = 0.4660 F = 6.34 Pr > F = .0001	n = 50 R^2 = 0.5042 Adj-R^2 = 0.4216 F = 6.10 Pr > F = .0001	n = 50 R^2 = 0.4855 Ajd-R^2 = 0.3998 F = 5.66 Pr > F = .0001

Standard errors in parentheses. *** = significant at 0.01; ** = significant at 0.05; * = significant at 0.1.

[1] Percentage Uninsured: Percentage of the population without health insurance for each state in year 1998.

[2] Per-capita Income: Personal income per-capita (in thousands of 1996 dollars) for each state in year 1998.

[3] Physician Rate: Number of physicians per 100,000 in population for each state in year 1998. In (2) and (3) the physician rate variable considers only the variation in physician rate that is not explained by per-capita income.

[4] Poverty Rate: Percentage of the population under the poverty level for each state in year 1998.

[5] % Over 65: Percentage of the population 65 years and older for each state in the year 1998.

[6] Alcoholism: Existence of mandate requiring coverage for alcoholism treatment for each state in 1998.

[7] Drug-abuse: Existence of mandate requiring coverage for drug-abuse treatment for each state in 1998.

[8] Mental Health: Existence of mandate requiring coverage for mental illnesses for each state in 1998.

[9] Chiropractic: Existence of mandate requiring coverage for chiropractic services for each state in 1998.

[10] Continuation of Coverage: Existence of mandate requiring continuation of health insurance benefits for terminated employees and their dependents for each state in 1998.

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