The Spread of State Any Willing Provider Laws

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Objective. To describe the growth of any willing provider (AWP) and freedom of choice (FOC) laws applicable to managed care firms and to explore empirically the determinants of their enactment.

Study Setting. A 1996 compendium of state laws and state-level data from the 1991–1994 period.

Study Design. Pooled cross-section time-series logistic regression of the decision to enact various types of AWP and FOC laws. Analysis uses a public choice framework to examine enactment. Key variables include proxy measures of proponent and opponent strength and the political environment.

Principal Findings. The model works well for laws affecting hospitals, but performs poorly for physician and pharmacy laws. More providers are associated with the enactment of AWP and FOC laws. More large employers are associated with a reduced likelihood of enactment of some forms of the laws but not others. Conservative states are more likely to enact laws limiting selective contracting with hospitals and physicians. States with greater interparty competition are also more likely to adopt some types of legislation.

Conclusions. The empirical results generally are consistent with the view that AWP and FOC laws are often enacted as a defensive strategy on the part of providers, but additional research is needed to provide a more definitive assessment of the determinants of these laws. Suggestions for future research are provided.

Key Words. Managed care, any willing provider laws, health law, health maintenance organizations, preferred provider organizations

The Congress recently enacted laws specifying a minimum number of hours of hospital stay for a maternity admission. It is expected to debate a national bill of rights for managed care members. Over the last decade the states have debated and enacted a host of laws limiting the flexibility of managed care firms in their contracting and service delivery. Bodenheimer (1996) reported that in 1996 alone, 1,000 pieces of legislation attempting to weaken or regulate HMOs were considered by state legislatures.

Over the last decade many states have enacted "any willing provider" (AWP) and "freedom of choice" (FOC) laws. They require managed care firms to accept any provider willing to abide by the terms and conditions of a standard contract (in the case of AWP laws) or to allow patients to step outside the network to obtain covered services from non-network providers (in the case of FOC laws).

Why are these laws enacted? The proponents have argued that they are attempts to maintain quality of care. In the case of AWP and FOC laws the arguments are threefold. First, the assertion is made that managed care firms may select providers that skimp on quality. The AWP (or FOC) law allows the patient to choose alternative providers who, in their judgment, provide better care. Second, the laws are said to reduce travel distances for subscribers in smaller communities, by allowing local providers access to the managed care network. Third, the laws are said to protect small providers, "mom and pop" drugstores and sole provider physician offices, for example, by allowing them to participate in networks that otherwise would be the exclusive domain of large chains or physician groups.

Opponents argue that AWP and FOC laws effectively vitiate the ability of managed care firms to control costs. They argue that managed care firms are able to negotiate lower prices with providers because they can assure a volume of patients in exchange for a favorable price. Under an AWP (or FOC) law any provider willing to accept the price can be part of the contract. As a result, providers have little or no incentive to offer lower prices, because they cannot expect higher volumes. Thus, the opponents suggest that AWP and FOC laws, and perhaps the range of other laws currently under legislative consideration, are efforts to protect providers from the price competition that results from managed care.

The purpose of this article is to provide an initial empirical exploration of the enactment of laws regulating managed care, focusing on AWP and FOC

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statutes. It develops a public choice model of state legislative enactment and tests it with data from the 1991–1994 period. This is not an easy task. Models of this type begin with an understanding of the effects of a law and work backward to identify the winners and losers. Then they must measure efforts of the proponents and the opponents to promote their respective positions before the state legislature and to estimate the impacts of these positions on enactment. To do this the analysis must take into consideration the political environment and be cognizant that state laws may differ substantially with respect to which providers are covered and which managed care firms are affected.

Several researchers have explored the enactment of other laws in the health services arena. Wendling and Werner (1980) examined the adoption of state certificate-of-need laws prior to the federal health planning laws. Cone and Dranove (1986) examined the enactment of state rate setting for hospitals. Begun and Feldman (1990) examined optometry licensure laws. Lambert and McGuire (1990) explored the enactment of state laws requiring insurers to provide coverage for mental health services. Ohsfeldt and Gohmann (1992) analyzed the enactment of state AIDS-related insurance regulations.

In the managed care field there have been no such studies. To date only Marsteller et al. (1995) have examined the enactment of the laws, and they have done so in a case study context. Their results, however, suggest that AWP and FOC laws are preemptive strikes by local providers seeking to prevent or delay the emergence of selective contracting in their markets.

This article begins with a discussion of the nature of AWP and FOC laws, the extent of their enactment, and the existing literature on their effects. The subsequent section, which discusses the theoretical underpinnings of a "public choice" model of legislative enactment, leads to presentation of the reduced form empirical model that is necessitated by the available data. The fourth section presents the regression results of a number of alternative specifications of the laws. Finally, we draw some tentative conclusions and identify areas for further research.

BACKGROUND

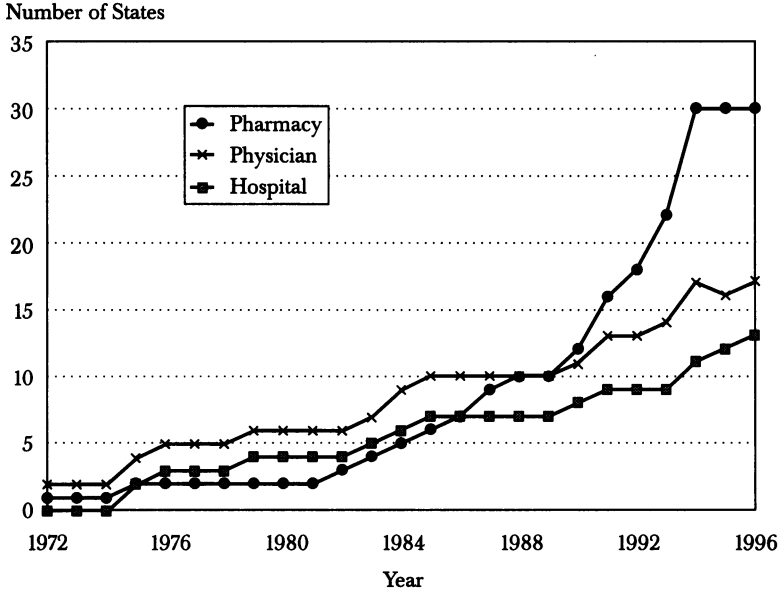
Although the attention given to AWP and FOC has been relatively recent, forms of the laws have been in existence for 20 years. Our review of state statutes found AWP laws applying to physicians and hospitals as early as 1976 in Georgia and 1972 for pharmacies in Pennsylvania. The earliest FOC law was enacted in South Dakota in 1939, although it applied only to public

health programs (see the appendix). However, it was not until the mid-1980s that states began to enact the laws systematically. As Figure 1 shows, as late as 1982 only six states had AWP or FOC laws covering physicians, four had laws covering hospitals, and only three had laws covering pharmacies. However, since that time, laws covering pharmacies have been particularly popular; by 1996, 30 states had enacted either AWP or FOC, or both, for pharmacies. Thirteen states have laws relating to hospitals, and 17 have laws covering physician services.

The laws do not necessarily apply to all managed care firms. Some apply only to HMOs, others only to PPOs. Indeed, as Hellinger (1995) reports, the HMO laws do not necessarily apply to all HMOs in a state. He notes that, while not yet tested in the courts, the HMO Act of 1973 and its 1988 amendments prohibit state laws that hinder the growth and development of federally qualified HMOs. Presumably these laws would apply to state AWP and FOC laws directed at federally qualified HMOs.

There is also some question regarding the applicability of the Employee Retirement Income Security Act (ERISA) to AWP and FOC laws. In general,

Figure 1: States with Any Willing Provider and/or Freedom of Choice Laws



ERISA exempts self-insured firms from state insurance regulation. However, the courts are split on whether AWP and FOC laws are exempted from preemption by ERISA's insurance savings clause. The Fourth Circuit held that the Virginia AWP was not preempted by ERISA. A lower federal court in Texas has also held that the Texas pharmacy law was not preempted. On the other hand, the Fifth Circuit held that the Louisiana law was preempted. A lower federal court in Alabama held that a series of Alabama AWP laws were also preempted.[1] In each of these cases the intent was to use ERISA to preempt the statutes, obviously with mixed success. However, regardless of the preemption of the laws themselves, ERISA does give self-insured plans immunity from AWP and FOC laws.

AWP laws require that any provider willing to abide by the terms and conditions of the managed care contract must be included in the managed care network. Members new to the contract are to receive the same prices as those negotiated with current members. One would expect that a provider is willing to grant a price reduction to a managed care firm in the hope of garnering greater patient volume or preventing the loss of existing patients. However, in the presence of an AWP law, new providers also accept the negotiated payment, and the original provider is unable to increase his or her patient load. Under this circumstance, no provider has much incentive to offer a lower price because the extra volume is likely to be lost to the other providers who meet any price concession. Thus, in the presence of AWP laws one expects that prices will be higher, patient volume will be less concentrated, and patients will have a broader array of providers from whom to choose in any given managed care firm. Moreover, managed care firms will have less incentive to enter the market.

Freedom of choice (FOC) laws have similar effects. Under an FOC law a subscriber to a managed care firm has the right to step outside of a managed care panel and receive care from any licensed provider. The managed care firm is obligated to pay that provider a price typically below the price negotiated with network members. Individual subscribers are then required to make a larger copayment. The laws essentially convert a closed-panel managed care plan into a classic PPO plan. The laws sometimes specify the price difference and allow the newly included provider to balance-bill the patient. Like the AWP laws, FOC laws reduce the incentive for the provider to agree to a low price. The only loss the provider incurs is that resulting from the price elasticity associated with the patient's out-of-pocket payment. To the extent that the out-of-pocket price difference between panel members and non–panel member providers is relatively small, this loss will likely be

small. These laws again imply that prices will be higher, patient volume will be less concentrated, and patients will have a wider selection of providers. And, again, it implies that managed care firms have less incentive to enter a market.

Very little research has been done on these laws as they affect the behaviors of healthcare markets. Melnick, Zwanziger, and their colleagues have shown that the enactment of selective contracting legislation in California was associated with a reduction in the rate of increase in hospital costs and with a pattern of PPO transaction prices consistent with price competition. (See Mann and Melnick (1991) for the legislative history, and Zwanziger and Melnick (1988) and Melnick et al. (1992) for empirical analyses.) Gruber (1992) also examined the California hospital market after the advent of selective contracting. He found that, subsequent to enactment, hospitals that were located in more competitive markets had greater increases in the size of the discounts they provided.

A number of consultant studies have sought to examine directly the effects of AWP or FOC laws. Wyatt and Company (1991) and Atkinson & Company (1994) examined the effects of AWP laws on the size of PPO networks and on administrative costs. They suggested that an AWP law would increase the physician participation rate in a PPO from 25 percent to 60 percent and would raise hospital participation from 44 percent to 80 percent. Given this, the Wyatt study indicated that administrative costs would increase by 170 percent in addition to lost claims saving. Atkinson estimated an 86 percent increase in administrative costs. Unfortunately, these studies merely simulate possible network expansions, assume constant administrative costs per provider, and extrapolate the higher costs that necessarily result. There is no evaluation of actual effects. Abt Associates (1994) examined prescription drug discounts that would be lost if AWP laws were enacted. Using Massachusetts data, they compared existing HMO prescription drug discounts with the average retail price of the ten most common prescription drugs, concluding that the average retail price was $3.06 to $19.56 higher than the HMO price. It is not at all clear, however, what percentage of non-HMO subscribers pay retail prices. Thus, the cost savings are overstated.

Sheils, Stapleton, and Haught (1995) are the only ones to evaluate directly the effects of AWP laws. They argue that the laws will restrict the growth of managed care plans. They use regression techniques to analyze state-level data on HMO enrollment over the 1985–1994 period. AWP laws are hypothesized to result in lower enrollment. They then use the enrollment estimates to forecast the effect of the laws on elements of healthcare spending. Their conservative estimate is that AWP laws resulted in a 6.9 percentage

point slower rate of growth in HMO enrollment. From this they project that healthcare spending in the United States will be as much as $92.8 billion higher over the 1996–2002 period. This finding is likely to be seriously overstated. First, it fails to adjust the lower HMO cost experience for possible favorable selection of low-cost utilizers. More importantly for our purposes, it fails to take into consideration the determinants of the enactment of the legislation.

While AWP (and FOC) laws are likely to reduce managed care growth and to lead to higher costs, it is also the case that the states with the laws may have enacted them in an effort to retard managed care growth. Marsteller et al. (1995) explored the enactment of AWP and FOC laws. They found that the enactment of the laws occurred where managed care penetration was low, not where it was high. They concluded that the enactment of the laws may be a defensive measure on the part of independent providers "limiting the damage" managed care plans can do to independent providers. If this is so, the Sheils et al. findings may be overstating the effect of the laws. The magnitude of the effect of the laws on enrollment, at least in part, may reflect the tendency of the laws to be enacted where penetration is low. If so, the policy implications of further enactment of the laws may be seriously misleading.

THEORETICAL CONSIDERATIONS

In one view, state laws arise from a widespread desire to correct inefficient or inequitable market practices. Under this "public interest" model, AWP and FOC laws are viewed as attempts to level the playing field so that all hospitals or physicians or pharmacies have an opportunity to participate in managed care networks. One might also argue that the laws are attempts to maintain quality of care for managed care enrollees by allowing them to obtain care from providers they consider to be of higher quality than the providers in the managed care firm's panel of providers.

An alternative view is that these state laws arise from attempts by self-interested parties to further their private interests. This view stems from the work of Stigler (1971), Posner (1974), and Peltzman (1976), among others. The idea is straightforward. Legislators seek election and reelection. To that end they provide services to their constituents. Individuals and groups seek legislative services (i.e., laws) for which they trade political support—votes, publicity, campaign assistance, and contributions. The theory predicts that benefits will accrue to relatively small groups of people who are deeply

committed to a particular issue and that costs will be disbursed among a large number of less-interested constituents.

In general, individuals have a position on virtually every issue; they perceive themselves as gaining or losing in each instance. However, they are also economically rational. For most issues the expected gain or loss is smaller than the costs of political activity. Thus, they do nothing. In contrast, producers are indifferent to most issues, but have strong interests in a few. Thus, the proponents (and opponents) of legislation tend to be producers, whose gains or losses are large enough to warrant the costs of political action.

For AWP and FOC laws, one should expect that hospitals, physicians, and pharmacists have the most to gain from restrictions on the development and growth of managed care firms. Marsteller et al. (1995, p. 44) conclude: "Moreover, while preserving patient choice may be a 'buzzword' in the debates over selective contracting restrictions, the groups that are lobbying state legislatures for such provisions are provider associations." Managed care firms, employers, and their workers have the most to lose from the laws.

There is ample evidence that managed care firms successfully negotiate lower prices from hospitals. Melnick et al. (1992), for example, have shown that the Blue Cross PPO in California was able to negotiate lower prices with hospitals based on the number of hospital competitors in the market, the marketwide occupancy rate, and the PPO's share of the hospital's book of business. Feldman et al. (1990) demonstrated that only a subset of hospitals in a market had contracts with a given HMO and given a contract, those with lower prices obtained substantially more business. Moreover, recent work by Simon and Born (1996) suggests that increased managed care penetration is associated with lower inflation-adjusted physician incomes. Gaskin and Hadley (1977) show that nationwide, markets with greater HMO penetration have slower rates of increase in hospital costs.

Managed care firms clearly lose since they are deprived of much of their ability to negotiate on the basis of price. Moreover, employers and their workers are likely to be losers, although this is less clear. There is growing evidence that the growth of managed care has resulted in lower health insurance premiums. Wickizer and Feldstein (1995) examined the effects of HMO penetration on the premiums of indemnity insurance plans over the 1985–1992 period. They found that for an average employer group located in a market whose HMO penetration rate increased by 25 percent (from 10 percent of the market to 12.5 percent), the real rate of growth in premiums would be 1.1 percent lower. If managed care leads to lower premiums overall, then employer profits are enhanced or other forms of worker compensation

are increased, or both. However, to the extent that the laws allow workers a broader selection of providers, and workers are otherwise unable to obtain such selection, the laws may make workers and their employers better off.

Conceptual Model

Our conceptual model of factors predicting the presence or absence of AWP or FOC laws in states is based in part on Becker's (1983) model of interest group competition for political influence as it relates to the economic theory of regulation (e.g., Peltzman 1976). In Becker's model, the extent of political influence an interest group is able to attain is determined by its own efforts to produce political pressure on decision makers, the efforts of competing interest groups, and other factors. By its very nature, competition among groups for influence is a zero-sum game, in that increased influence by one interest group implies diminished influence among competing interest groups.

A simplified structural model of the determination of state-level AWP or FOC legislation relates the probability of legislation to the extent of influence on the part of various interest groups, the nature of managed care markets in the state, and the characteristics of state government:

$$L = l(I_S/I_o, A) \tag{1}$$

$$I_i = I(R_i, R_j, M, G) \tag{2}$$

$$M = m(L, X_M) \tag{3}$$

The likelihood of legislation is affected by the degree of influence exerted by groups supporting legislation (I_s) relative to that exerted by groups opposed to the legislation (I_o), and legislator attitudes (A) about the particular law (i.e., "ideology"). The production of influence by an interest group (I_i) is affected by the level of resources devoted to producing pressure (R_i), and the level of resources employed by competing groups (R_j), as well as by market conditions (M) and government characteristics (G) affecting the productivity of resources devoted to producing influence. Note that the production of interest group influence in Equation 2 is subject to the constraint $I_s + I_o = \lambda$ (an arbitrary constant), which indicates that $\Delta I_s = -\Delta I_o$. Thus, an increase in resources used by groups supporting legislation (S) does not assure its increased influence unless resources used by opposing groups (o) and all other factors affecting influence remain constant. Finally, market conditions (M)—managed care market share in the area, for example—are affected by

the likelihood of friendly or unfriendly legislation (L), as well as other market factors (X_M).

The model indicates that market conditions such as managed care market share both affect and are affected by anti–managed care legislation in a state, making managed care market share potentially endogenous for the purpose of predicting AWP or FOC laws.

Estimating a full structural model as just outlined is a formidable task. The influence variables (the I's) ideally would be modeled empirically as unobserved latent variables. The model also would have to define the nature of the interdependence among resources devoted to producing influence across groups (i.e., if group A increases resources, other groups may respond by either increasing resources to counteract group A or by "conceding defeat" and moving resources to produce influence for other issues). Data requirements to estimate the model also would be extensive. The level of resources used to try to produce influence (R's) could include measures of lobbying effort, campaign contributions (either for a current legislator or his/her opponents), campaign volunteers, and so on. Market conditions (M) could include overall HMO and PPO market share as well as the extent of concentration in HMO and PPO markets. Government characteristics (G) could include electoral competitiveness (average victory margins, reelection rates), the direction and extent of partisan control of the legislature and the executive, and so on.

Many of the data needed to estimate a structural model are not readily available. For example, data for lobbying efforts and (legal) campaign contributions at the federal level are readily available through the Federal Election Commission, but the availability of similar data for state governments is uneven across states, and would be extremely time-consuming to collect in any event. Moreover, as the ongoing campaign finance debate makes clear, a large number of ways exist for an interested donor to contribute money, time, and influence. Even if ideal data were readily available, estimation of the model would require a number of identification restrictions of dubious validity.

REDUCED-FORM EMPIRICAL MODEL

Rather than attempting to estimate a structural model of AWP and FOC legislation with endogenous managed care market share, we estimate an exploratory reduced-form model of the determinants of AWP and FOC laws:

$$L = f(S, O, A, G) \tag{4}$$

where S represents measures of the size of groups supporting AWP and FOC legislation, O represents measures of the size of groups opposing regulation, A represents measures of legislator attitudes, and G represents the extent of partisan competition for control of state government.

The data are a pooled time series of state-level data for all 50 states for the years 1991–1994. All of the explanatory variables in the reduced-form model are lagged one year with the exception of the year dummy variables. The model assumes that the legislature has the opportunity to enact or repeal laws in each period in the sample.[2] The dependent variable is a dichotomous variable indicating the presence or absence of a law, measured first as any AWP law or any FOC law and then defined in terms of the specific types of managed care organizations (HMOs or PPOs) and types of providers (hospitals, physicians, pharmacies) to which the laws apply. As a consequence we estimate 24 variants of the reduced-form model (see Table 1). Over the 1991–1994 time period nearly half of the observations (49.5 percent) had some form of law in place. FOC laws were less likely to be present, particularly as they applied to hospitals or physicians.

Provider groups are hypothesized to be most likely to support the laws (S). Hospital provider interests are measured simply as hospital beds per capita. Hospitals in markets with a surplus of hospital beds may be more likely than others to support AWP or FOC laws. Thus, the model predicts that states with a relatively high number of beds per capita will be more likely to enact the laws, holding other things constant. A similar argument holds for a measure of pharmacy service provider interests, measured as pharmacists per capita. In both cases, it would be preferable to include measures of the extent of market concentration among providers. For example, a large network of hospitals in a market where most other hospitals are independent might oppose an AWP law, whereas the independent hospitals might support it. Such detailed data are not readily available. Using only provider per capita variables in the reduced-form model does not allow us to account for the potential diversity of policy positions among hospital and pharmacy providers.

Two measures are used for physician interests: primary care physicians per capita and non–primary care (specialist) physicians per capita.[3] With the emphasis in managed care on using primary care physicians to control the utilization of specialist physician services, the model predicts that primary care physicians would tend to oppose the laws, whereas specialist physicians would tend to support the laws. Of course, the potential exists for diversity in policy preference among primary care and specialist physicians. For example, specialists within existing dominant networks of specialists may be more likely

Table 1: Means, Standard Deviations, Sources, and Proportions of Observations

	Mean	*s.d.*	*Source*
Independent Variables			
Hospital beds per 1,000	4.880	1.129	A
Primary care MDs per capita	0.532	0.172	A
Specialist MDs per capita	1.301	0.355	A
Pharmacists per capita	1.300	0.540	B
Percent large employers	0.086	0.073	C
Average ACU rating	45.015	21.900	D
Interparty competition	39.777	5.863	D
Democratic control	41.370	8.856	D
Dependent Variables			
Either law enacted	.495		Appendix
AWP law enacted	.420		Appendix
FOC law enacted	.285		Appendix
	Proportion Applicable to Hospitals	*Proportion Applicable to Physicians*	*Proportion Applicable to Pharmacists*
Any Law	.190	.285	.430
Any HMO	.175	.210	.400
Any PPO	.185	.280	.410
AWP-HMO	.110	.160	.320
AWP-PPO	.105	.195	.305
FOC-HMO	.080	.085	.175
FOC-PPO	.080	.105	.220

Sources: A. Bureau of Health Professions, Area Resource File (February 1996).

B. National Association of Boards of Pharmacy, *Census of Pharmacy-Pharmacists* (1994).

C. Bureau of the Census, *County Business Patterns* (1994).

D. Barone & Ujifusa, *Almanac of American Politics* (Washington, DC: National Journal, Inc., 1994).

to oppose AWP laws than specialists in smaller or less dominant networks. The available data do not permit us to account for these factors in the model.

Other than managed care organizations themselves, the group hypothesized to be most likely to oppose AWP and FOC laws (O) is large employers. The potential influence of large employers is captured in the model by a measure of the percentage of firms in the state with more than 1,000 employees. The model predicts that states with a relatively high percentage of large employers may be less likely than other states to enact the laws. An HMO market share variable is likely to be endogenous and, as such, cannot be included in the reduced-form model.[4]

Legislator attitudes (A) are measured indirectly as the average rating by the American Conservative Union (ACU) of the voting records of the state's congressional district. (No analogous measures of the voting records of state legislators exist.) The idea is that, at least on average, the ideology of elected representatives reflects the prevailing ideology of voters. To the extent that similar voters vote for both national and state representatives, the average ideology of national representatives from a state may be a reasonable proxy for the average ideology of state legislators. The expected effect of conservatism is ambiguous.

Several measures of state government characteristics (G) are included in the reduced-form model. Partisan competition for control of the state government is measured by a Ranney (1976) style index of Democratic party control (IDC). It ranges from 0 (complete Republican control) to 100 (complete Democratic control).[5] The measure of partisan competition is defined as $IPC = [50 - abs(100 - IDC)]$, which ranges from 0 (either complete Republican or complete Democratic control) to 50 (equal party strength). Generally, the effect of partisan competition on legislation is ambiguous. However, more competitive governments may exhibit greater activism (not content to maintain the status quo) to try to capture support from key blocs of voters. If so, states with greater partisan competition may be more likely than other states to enact laws. The model also includes the index of Democratic control to capture any influence of control by the conservative (Republican) or liberal (Democratic) party on the likelihood of legislation.

RESULTS

We first examine the logistic regression estimates of the enactment of any law, and of AWP and FOC laws separately. These are presented in Table 2. States with more hospital beds per 1,000 were more likely to enact either form of the law. The effect carried over to the separate analysis of AWP and FOC laws. States with more primary care physicians per capita were less likely to enact any law, but the effect appears to be primarily associated with opposition to FOC laws. (The primary care physician result lacks statistical significance in the AWP equation.) In contrast to expectations, the number of pharmacists per capita was negatively associated with the enactment of any law. Estimated coefficients for the proportion of large employers were positive (contrary to expectations) but not statistically significant. With the exception of the FOC model, the political variables offered little insight.

Table 2: Logistic Regression Estimates of Determinants of "Any Willing Provider" and "Freedom of Choice" Laws, 1991–1994

	Either Law	*Any Willing Provider Law*	*Freedom of Choice Law*
Intercept	1.726	−1.864	3.217
Hospital beds per 1,000	0.776***	0.778***	0.785***
Primary care MDs per capita	−5.884**	−3.137	−12.934***
Specialist MDs per capita	0.742	1.093	−1.260
Pharmacists per capita	−0.837**	−0.591	−0.580
Percent large employers	0.118	0.958	2.608
Average ACU rating	−0.007	0.006	−0.026**
State govt interparty competition	0.039	0.008	0.107*
State govt Democratic control	0.118	−0.018	−0.004
Year 1991	−1.680***	−1.555***	−2.510***
Year 1992	−3.493***	−2.672**	−2.504***
Year 1993	−0.903*	−0.823*	−1.500**
McFadden's pseudo-R^2	0.141	0.121	0.296
Somers' D	0.456	0.467	0.712
Dependent variable mean	0.495	0.420	0.285

*, **, *** Significant at the 90, 95, and 99 percent confidence level, respectively.

One explanation for the mixed findings is that the laws have differential impacts on providers and imply different effects on employer costs. For example, physician provider groups may not care much about laws that apply only to pharmacies. Large self-insured employers who offer PPOs to their employees may not oppose AWP laws applicable to PPOs since they are exempt from the law. To examine these issues, we estimated the basic model for laws specifically applicable to hospitals, physicians, and pharmacists. Moreover, we explored whether AWP and FOC laws applicable to HMOs or PPOs had different dynamics with respect to enactment. These results are summarized in Table 3. In each case we limited the provider variables to those directly affected by the legislation. Each equation also included fixed effects for the year.

Turning first to laws applicable to hospitals, the top panel of Table 3, the model is generally consistent with expectations. States with more hospitals per 1,000 population were more likely to enact the laws limiting selective contracting with hospitals. The effect was strongest for HMO laws, but the results were statistically significant for laws targeted both at HMOs and at PPOs. However, subsets of these provisions, AWP laws targeted at HMOs

Table 3: Logistic Regression Estimates of the Determinants of Legislation, by Type of Law and Provider Covered, 1991–1994

Provider Type Covered	*Any Law*	*Any HMO Law*	*Any PPO Law*	*AWP–HMO*	*AWP–PPO*	*FOC–HMO†*	*FOC–PPO†*
Hospitals							
Intercept	−6.409***	−6.682***	−5.233***	−6.072***	−4.428*	−7.917**	−7.917**
Hospital beds per 1,000	0.489***	0.454**	0.324*	0.199	0.191	0.382	0.382
Percent large employers	0.430	1.012	−22.454***	2.731	−15.306*	−21.944**	−21.944**
Average ACU rating	0.016*	0.022**	0.014	0.028**	0.015	0.006	0.006
Interparty competition	0.227**	0.209**	0.258**	0.122	0.150	0.447*	0.447*
Democratic control	−0.189**	−0.168*	−0.182*	−0.086	−0.106	−0.342	−0.342
Physicians							
Intercept	−1.202	−1.745	−0.771	−3.245	−2.843	−5.203	−2.589
Primary care MDs per capita	−3.109	0.064	−4.660	−1.312	−3.848	1.623	−4.252
Specialist MDs per capita	−0.103	−1.157	0.572	−0.003	1.539	−2.648	−0.648
Percent large employers	1.365	2.922	−7.226	1.581	−16.304*	−2.082	−3.019
Average ACU rating	0.013	0.009	0.013	0.013	0.022*	0.011	0.001
Interparty competition	0.012	0.034	0.023	0.189*	0.062	0.039	0.055
Democratic control	0.036	0.003	0.035	−0.146*	−0.003	0.079*	0.049
Pharmacists							
Intercept	0.511	0.638	−0.574	0.315	−0.476	−2.305	−4.170***
Pharmacists per capita	0.029	0.068	0.052	0.219	0.255	0.562*	0.399
Percent large employers	−1.590	−1.169	−1.160	−10.373**	−14.492***	1.256	1.095
Average ACU rating	−0.002	−0.000	−0.004	−0.002	−0.010*	−0.003	0.002
Interparty competition	0.031	0.010	0.055	0.048	0.087	0.027	0.092*
Democratic control	−0.029	−0.017	−0.028	−0.038	−0.046	−0.013	−0.026

*, **, *** Statistically significant at the 90, 95, and 99 percent confidence level, respectively.

† FOC–HMO and FOC–PPO for hospitals were in place in the same states in the same years. Note that each equation also includes fixed-effects variables for year.

and at PPOs, and FOC laws targeted at HMOs and PPOs did not yield statistically significant results.[6]

Large employers appear to have played an important role in opposing the spread of restrictive hospital contracting laws as they apply to PPOs, but the large employer coefficients are not statistically significant in the HMO law model. This is somewhat unexpected, since large employers offering PPOs to employees through a self-insurance arrangement are more likely to be exempt from the state PPO laws but less likely to be exempt from state HMO laws for purchased HMO services.

The signs of the estimated coefficients of the political variables were consistent across the hospital laws equations, although many were not statistically significant. States with more conservative congressional delegations were more likely to enact any hospital laws, although the effect appears to be driven by laws targeting HMOs. Largely consistent with this, state governments that are dominated by the Democratic party were less likely to enact laws restricting managed care contracting with hospitals. Finally, greater interparty competition appears to increase the likelihood of enactment of hospital contracting laws.

In contrast, in the models for laws applicable to physicians and pharmacists, few variables achieved statistical significance. States with a greater proportion of large employers were less likely to enact AWP laws restricting PPO contracts for physicians and AWP laws restricting PPO or HMO contracting with pharmacies. States with more pharmacists tended to be more likely to enact laws affecting pharmacists, although the results were statistically significant only for FOC laws for HMOs. More conservative states, and states with Democratic party control, were apparently consistent in their support for physician and pharmacist laws: both groups of states were more likely to enact laws limiting selective contracting with physicians, but both apparently opposed such laws for pharmacists.

The exploratory reduced-form model clearly predicts enactment of AWP or FOC laws affecting hospitals better than it predicts enactment of laws affecting physicians or pharmacies. Recall from Table 1 that hospital laws generally are less common than laws affecting physicians, which in turn are less common than laws affecting pharmacies. Perhaps hospital contracting is considered the most salient battleground among opponents of the laws, who may therefore devote a disproportionate effort to excluding hospitals from AWP or FOC laws. Another possibility is that the inherent limitations of the provider interest group proxy variables employed in the reduced-form model account for the limited evidence of provider interest group effects for laws

affecting physicians or pharmacies. Perhaps a longer panel of data would be more successful in identifying interest group effects. A final possibility is that the public choice conceptual framework is misplaced (i.e., few interest group effects were found for physician and pharmacy laws because the interest groups do not exist). Answers to these questions will have to await future research utilizing more and better data.

CONCLUSION

The public choice model argues that state AWP and FOC laws are not randomly enacted, but result from the efforts of interested parties—particularly provider groups and employers. Our empirical work suggests the difficulties encountered in rigorously examining this proposition. Several conceptual and empirical issues need to be addressed on the way to useful analysis. The first is the question of what the law covers. As we have demonstrated, the laws vary significantly in the types of providers who are covered and in whether they apply to HMOs, PPOs, or both. Moreover, AWP and FOC laws restrict managed care firms in different ways. We have treated these laws as separate and distinct statutes, as they are. However, the choice of which particular version of the law, if any, gets enacted is itself an interesting and important question. Can the laws be placed along a continuum? Does an FOC law represent a fall-back position when an AWP statute is not currently viable? Stated differently, is an FOC a minimally disruptive consolation prize for proponents who are not strong enough to see the enactment of an AWP statute? All of this still leaves open the issue of the rigor with which a law is enforced. Clearly, future work must carefully consider the nature of the law(s) in question.

A second issue revolves around who gains and who loses from the enactment of a law. Empirically, we considered the numbers of providers per unit population as measures of gainers and losers. However, these groups are not necessarily homogeneous in their views on a given piece of legislation. A state in which a couple of hospital systems dominate the hospital community is probably less likely to support a state AWP law. Lots of freestanding hospitals and a lot of unused capacity, *ex ante,* probably lead to a greater demand for protection. Similar cases can be made for specialists, primary care physicians, and pharmacists. Our results suggest that rather gross measures of provider influence were perhaps sufficient in examining laws affecting hospitals. This is consistent with research on the enactment of state rate-setting and certificate-of-need laws that also found crude measures of hospital influence consistent

with support for the laws. However, analogous measures of other provider groups may be woefully inadequate, perhaps because the constituencies are much more diverse. Greater attention must be paid to the ways in which provider groups are defined.

The role of employers exemplifies a related issue, particularly given our results. We have focused on the proportion of the states' employers that are "large" on the reasonable assumption that large employers have proportionately more to gain from opposing a given law—and relatively low administrative costs in lobbying the legislature. A greater proportion of large firms were successful in keeping some laws from being enacted. Did this have to do with the law's effects on some employers in ways that led the employers to choose to be less than strenuous in fighting some battles? Indeed, given that large employers are self-insured and exempt from state insurance regulation, one would not expect them to exert much effort with respect to PPO laws. More broadly, what role have small employers played in the process? If they are better organized in some states, does this aid their ability to advance their positions? The role of employers of various strata is ripe for further work.

Third is the question of the political environment. Much of the public choice literature has demonstrated the importance of ideology in the enactment of some laws. See Ohsfeldt and Gohman (1992), for example. Our results suggest that states with more conservative congressional delegations have been more likely to enact these laws, at least with respect to hospitals and physicians. Greater Democratic control of state government has typically been associated with a smaller probability of enactment. Better measures of the state political environment may improve the outcome of the analysis. Perhaps the efforts of business development groups to identify states that are "friendly to business" could be explored, although these measures often focus more on taxes than on regulation.

Finally, a case could be made for more direct measures of legislative influence. In principal, one could begin to collect information on the contributions of organized groups to members of the legislature. We are not convinced, however, that this would be a useful exercise. Political support takes many forms: campaign contributions, volunteers, public endorsement, and all manners of horse trading.

The inability of our simple reduced-form model to capture all relevant aspects of the political marketplace limits the conclusions of our empirical results. Nonetheless, at the very least, our findings suggest that efforts to evaluate the effects of state AWP and FOC laws on measures such as state-level HMO market share must take into account the endogeneity of the laws themselves; failure to do so is likely to bias the estimates of impact.

However, it is possible that analyses of the effects of the laws on enrollment or costs using a firm-level managed care database or market definitions smaller than states may proceed by treating the laws as exogenous. Since state laws are enacted at the state level, managed care penetration by a particular firm or within a metropolitan area, for example, may not directly affect the legislative process. More definitive answers must await future research employing more complex models and more complete data.

Appendix: Date of Enactment of Any Willing Provider and Freedom of Choice Laws

	Applicable to HMOs						*Applicable to PPOs*					
	Any Willing Provider			*Freedom of Choice*			*Any Willing Provider*			*Freedom of Choice*		
State	*Pharmacy*	*Physician*	*Hospital*	*Pharmacy*	*Physician*	*Hospital*	*Pharmacy*	*Physician*	*Hospital*	*Pharmacy*	*Physician*	*Hospital*
AL	1988			1988	1994		1988			1988	1994	
AK												
AZ												
AR	1991	1995	1995	1995	1991	1995	1991	1995	1995	1995	1991	1995
CA												
CO												
CT	1982						1982					
DE	1994*			1994*			1994*			1994*		
DC												
FL	1993									1993		
GA	1983	1976	1976				1983	1976	1976	1988		
HI												
ID		1994	1994	1991						1991		

IL	1994†	1985	1994†				1994†	1985	1994†			
IN	1994	1994	1994				1994	1994	1994			
IA												
KS	1994						1994					
KY		1994	1994					1994	1994			
LA	1992†	1995†	1995†	1992			1992†	1984	1995†	1992		
ME												
MD												
MA	1995						1995					
MI	1984‡	1984‡	1984‡				1984‡	1984‡	1984‡			
MN	1994§						1994§					
MS	1994			1994			1994			1994		
MT				1993			1991**	1991**	1991**	1993		
MO										1959	1959	
NB												
NV												

Continued

Appendix: Continued

State	*Applicable to HMOs*						*Applicable to PPOs*					
	Any Willing Provider			*Freedom of Choice*			*Any Willing Provider*			*Freedom of Choice*		
	Pharmacy	*Physician*	*Hospital*	*Pharmacy*	*Physician*	*Hospital*	*Pharmacy*	*Physician*	*Hospital*	*Pharmacy*	*Physician*	*Hospital*
NH	1992											
NJ	1994			1994								
NM	1987	1987			1979	1979	1987	1987			1979	1979
NY	1986						1986					
NC	1993			1993			1993			1993		
ND	1989			1985		1985	1989			1985		1985
OH												
OK	1994			1987	1996	1996	1994			1987	1996	1996
OR	1993						1993					
PA		1972						1972				
RI												
SC	1994††			1994††			1994††			1994††		

SD	1990			1990	1939‡‡		1990			1990	1939‡‡	
TN												
TX	1991	1992	1992	1995	1975	1975	1991			1995	1975	1975
UT												
VT												
VA	1994		1983	1995			1994	1983	1983	1995		
WA	1993§§	1993§§					1993§§	1993§§				
WV												
WI				1975	1975	1975				1975	1975	1975
WY	1990	1990	1990				1990	1990	1990			

†Applicable to Medicaid program only.

‡ Requires insurers and others to offer a prudent purchaser agreement to healthcare providers within a reasonable distance of recipients of services.

§ Applies to "allied independent health care providers." Health plans with fewer than 50,000 enrollees and staff model HMOs are exempt.

** Repealed in 1993.

†† Repealed effective May 18, 1997.

‡‡ Applies only to public health programs.

§§ Applies only when a plan's market share reaches the point where the plan's exclusion of providers would result in the substantial inability of the providers to continue their practice. Repealed in 1995.

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NOTES

1. See, respectively, *Stuart Circle Hospital Corporation* v. *Aetna Health Management,* 995 F.2d 500 (4th Cir. 1993); *Texas Pharmacy Association* v. *Prudential Insurance Company of America,* 907 F.Supp 1019 (W.D. Texas 1995); *CIGNA Healthplan of Louisiana* v. *State of La,* 82 F.3d 642 (5th Cir. 1996); and *Blue Cross and Blue Shield of Alabama* v. *Neilsen,* 917 F.Supp. 1532 (N.D. Ala. 1996).
2. An alternative specification would have examined the enactment of a law in whatever year it occurred and would have used prior period variables on the right-hand side. This approach is problematic. First, it assumes strong legislative inertia; once a law is enacted it will not be repealed. In fact, AWP and FOC laws have been repealed. Second, it raises the question of what time period to use for states that did not enact a law. The obvious answer is that the precise year does not matter since the legislature had the opportunity to enact the law but chose not to. But this circumstance applies to each state in every year. The legislature has the annual option to enact or repeal.
3. For the model, primary care is defined as general/family practice, pediatrics, and general internal medicine.
4. It could be argued that the provider interest group variables also may be endogenous to the extent that laws affect managed care market share and thus the number of hospitals, physicians, and pharmacists in a state. Although this is possible (or even likely in the long run), the hypothesized causal pathway works through managed care market share. As such, the provider interest variables are unlikely to be directly endogenous for legislation.
5. The index is the mean of (1) the percent Democratic state representatives; (2) the percent Democratic state senators; (3) the percent of the vote for the Democratic candidate for governor in the most recent general election; and (4) a variable equal to 100 if the governor and a majority of both the state house and senate are Democrats, zero otherwise.
6. Note that states with FOC–HMO statutes applicable to hospitals were the same states that had FOC–PPO laws applicable to hospitals. Note, too, that this does not imply double counting in the aggregated equations.

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