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FINAL REPORT

**COMMERCIAL PLANS IN MEDICAID MANAGED CARE:
UNDERSTANDING WHO STAYS AND WHO LEAVES
IN A CHANGING MARKET**

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ABSTRACT

This study examines the extent to which Medicaid managed care (MMC) policies, plan characteristics, and local healthcare market conditions were associated with commercial plan exits from MMC between 2000 and 2001. We find that all three sets of factors contribute to a plan's exit decision. Among the MMC policies, plans in counties with higher capitation payments and higher capitation growth rates were less likely to exit from MMC. Carve-outs for mental health services (which typically are not integrated with physical health care) made exits less likely, while carve-outs for prescription drugs (which are central to physical health care) made exits more likely. Plans in counties with mandatory enrollment into fully-capitated managed care for SSI beneficiaries were also more likely to exit. Regarding plan characteristics, we find that plans that are not-for-profit, provider-sponsored, and have more stringent restrictions on provider choice were less likely to exit from MMC. Finally, a higher profit potential in the overall managed care market was associated with a lower likelihood of exiting from MMC.

EXECUTIVE SUMMARY

One goal of Medicaid managed care (MMC) has been to increase beneficiaries' access to quality health care by "mainstreaming" patients into private care settings. A key factor in achieving this goal is the participation in Medicaid of commercial health plans since they tend to have broader provider networks than do traditional Medicaid systems. While the rapid increase in Medicaid managed care enrollment during the early to mid-1990s attracted many commercial health plans to Medicaid, by the late 1990s commercial plan participation began to decline. A number of qualitative studies have documented possible reasons for this exodus of plans, but few studies have used multivariate methods to examine the factors associated with commercial plan exits from MMC.

This study uses multivariate analysis to examine the relationship between Medicaid managed care policies, plan characteristics, and local health care market conditions and a commercial plan's decision to continue in or exit from MMC in a county. The analysis uses 2000 and 2001 data from Interstudy to determine plan MMC participation and characteristics, and data from a variety of sources, including the Area Resource File and the Centers for Medicare & Medicaid Services, to capture other explanatory variables.

We find, not surprisingly, that higher MMC capitation rate levels *and* higher growth rates in capitation rates are associated with a lower probability that a commercial plan exits from Medicaid. We also find that other Medicaid policies are important. Carving out mental health care services, which are not typically integrated into physical health care, made plans *less* likely to exit, while carving out prescription drug services, which are more central to physical health care management, made plans *more* likely to exit. We also find that counties with mandated enrollment into fully-capitated managed care for SSI beneficiaries are more likely to lose commercial plans than counties that do not have mandatory enrollment.

While Medicaid capitation rates and other policies play an important role in a plan's decision to exit from MMC, other factors are also important. Plans that have a larger share of the MMC market in a county and plans that have invested in MMC in a larger share of the counties in a state are less likely to exit than plans with a more limited MMC investment. In addition, provider-sponsored plans and not-for-profit plans are less likely to exit than other plans. These plans may be more likely to have a sense of social mission or obligation toward serving the Medicaid population and, consequently, be less likely than other plans to exit when facing the same MMC rates and policies.

Finally, the general health care market also affects plan exits from MMC. Plans in markets with higher operating profit margins and higher commercial rates relative to Medicaid rates are less likely to exit MMC. These findings may suggest that commercial plans in the MMC market are focused on their overall bottom line (rather than just the returns to their Medicaid line of business) in deciding whether to remain in the MMC market.

In summary, our results suggest that many of the factors that influence the exit decisions of commercial plans are within the control of state policymakers and program administrators. States that hope to maintain or encourage commercial plan participation in MMC need to establish sound capitation rates and have reasonable increases in those rates over time so that payments reflect the costs of serving the populations enrolled in MMC. States must also take care to ensure that other program policies (e.g., service carve-outs) do not interfere with the ability of plans to manage care for Medicaid beneficiaries. To increase retention rates for commercial plans, states should also pay attention to ensuring that plans are able to enroll an adequate number of Medicaid enrollees. Finally, states concerned with keeping commercial plans in their MMC programs may want to monitor changes in the broader managed care market since the returns in the private market and the overall profitability of managed care in a market appear to have implications for commercial plans decision to continue in or exit from MMC.

Over the past decade, managed care has become the dominant delivery system within the Medicaid program, covering nearly 60 percent of all enrollees in 2003 (CMS 2003). That dominance is expected to grow as states expand Medicaid managed care (MMC) to additional geographic areas and populations (e.g., rural areas, blind and disabled persons). Much of the growth in MMC has been in full-risk capitated managed care programs. In 1999, there were 316 plans in 45 states serving 11.4 million Medicaid enrollees in fully-capitated programs, representing approximately 64 percent of all Medicaid managed care enrollees (Felt-Lisk, Dodge, and McHugh 2001; CMS 2003). Commercial plans, which we define as plans with less than 25 percent of their total enrollment from Medicaid,¹ represented 57 percent of these full-risk plans and accounted for 58 percent of all full-risk Medicaid managed care enrollees.

Although commercial plans play a large role in fully-capitated MMC programs, published reports indicate that the share of commercial plans participating in the Medicaid market has been declining since the mid-1990s. At the height of commercial plan participation in 1996, there were 211 commercial plans in MMC (Felt-Lisk 1999). By 1999, that figure was down to 181 plans, with the number of commercial plans exiting the Medicaid program (34) outstripping the number of plans entering (12) by nearly 3 to 1 (Felt-Lisk et al. 2001).

Commercial plan exits are of concern since one of the policy goals of MMC was to provide Medicaid recipients with access to mainstream health care providers as a way of eliminating a two-tiered system of care. With provider networks that are broader than traditional Medicaid fee-for-service systems, it was hoped that commercial plans would increase beneficiaries' access to and quality of care by moving Medicaid beneficiaries into the same care

¹ This definition of commercial plans is based on the old "75/25 rule" that required that health plans serving Medicaid beneficiaries have at least 25 percent of their enrollees be non-Medicaid beneficiaries. The rule was eliminated in the Balanced Budget Act of 1997. A similar definition for commercial plans has been used in other studies of plan participation in MMC (e.g., Felt-Lisk et al. 2001; Felt-Lisk 1999; Draper, Hurley, and Short 2004).

settings available to individuals with private insurance. Access to mainstream providers remains a goal in many states, as indicated by provisions in their managed care contracts that preclude plans from providing separate systems of care for their Medicaid enrollees (Center for Health Services Research and Policy 2000).

If states are to keep commercial plans in the MMC market, it is important to understand the factors that influence a commercial plan's decision to exit from the Medicaid program. Although a number of qualitative studies have explored commercial plan participation in MMC (e.g., Felt-Lisk 1999; Felt-Lisk et al. 2001, McCue et al. 1999; Coughlin, Long, and Holahan 2001; Draper, Hurley, and Short 2004), there have been no empirical studies addressing this issue. This study provides the first empirical analysis of the factors associated with commercial plan exits from Medicaid managed care. Specifically, we examine how Medicaid managed care policies, plan characteristics, and local health care market conditions affect a commercial plan's decision to continue in or exit from MMC in a county. By identifying factors that are associated with plan exits, this analysis can help state officials develop strategies to keep commercial plans in or attract new commercial plans to the Medicaid market.

Conceptual Framework

Although there have been no empirical studies examining the factors affecting commercial plan exits from MMC, a number of empirical studies have looked at plan exits from the Medicare+Choice (M+C) market (most recently, Lake and Brown 2002; Glavin et al. 2002). Our conceptual framework builds on the model developed by Lake and Brown (2002), where a plan's decision about MMC participation in a county is a function of Medicaid policies that affect returns to investment in the county MMC market, characteristics of the plan, and characteristics of the market (Figure 1). Under this framework, a plan will continue to participate

in MMC in a county so long as the financial returns from participating in Medicaid allow the plan to meet its goals, which may be profit maximization, enrollment maximization, market share growth, market diversification, or some other objective (Coughlin, Long, and Holahan 2001).² In specifying our model, we draw on the findings from the qualitative literature examining commercial plan exits from MMC (e.g., Felt-Lisk 1999; Felt-Lisk et al. 2001, McCue et al. 1999; Coughlin, Long, and Holahan 2001; Draper, Hurley, and Short 2004) and the qualitative and quantitative studies that have examined exits from Medicare managed care (e.g., McGee and Brown 1992; Porell and Thompkins 1993; Kornfeld and Gold 1999; Achman and Gold 2001; Lake and Brown 2002; Glavin et al. 2002).

Returns to Medicaid: Medicaid Payment and Other Policies. Higher Medicaid capitation rates are hypothesized to make Medicaid more appealing to commercial plans, reducing the probability that the plan exits from MMC. Other Medicaid payment policies may also have an effect on exits from Medicaid. For example, we hypothesize that commercial plans will be less likely to exit from Medicaid in a state with a higher rate of growth in capitation payments over time since a higher growth rate should signal that Medicaid payments are more likely to keep pace with increases in health care costs.

State Medicaid policies regarding service carve-outs could also affect the costs of providing care and, thus, exits, although it is difficult to predict the direction of the effect. The presence of carve-outs may reduce the burden of providing costly services, making Medicaid more profitable at a given reimbursement rate. Alternatively, moving the provision of certain

² This model assumes that the plan makes the decision on whether to continue participating in MMC in a particular county. It should be noted that in some cases, states make a decision to not renew a contract for a plan in a particular market. We cannot distinguish between exits that are a result of a decision by the plan and exits that are by state choice.

services outside the control of the plan could reduce its ability to manage beneficiaries' care, causing the plan to incur higher costs than it would if those services were not carved-out.

Medicaid enrollment policies could also affect the returns under MMC for the plans. In particular, Medicaid policies requiring beneficiaries to enroll in fully-capitated managed care could limit a plan's ability to benefit from the favorable selection by healthier Medicaid beneficiaries that often occurs under other program models.³

To capture these Medicaid policies, our model includes a measure of county-level Medicaid capitation rates, a measure of the growth in Medicaid capitation payments over time in the state, and indicators for whether the state carves out mental health services or prescription drug services. We chose these two service categories because they are two of the most costly services that are carved-out under MMC by states.

Our model also includes an indicator for whether the poverty-related Medicaid population⁴ is required to enroll in a fully-capitated MMC program in the county. (The omitted category is other forms of MMC, such as voluntary enrollment in a fully-capitated MMC program or a choice between a fully-capitated model and a primary care case management model.) A similar measure is included to indicate whether blind and disabled Medicaid beneficiaries who receive benefits under the Supplemental Security Income (SSI) program⁵ are required to enroll in a fully-capitated MMC program.

Characteristics of the Plan. A plan's decision to continue participating in or to exit from a MMC program also depends on the characteristics of the plan itself. We expect plans that are

³ A number of studies (e.g., Leibowitz, Buchanan and Mann 1992; Sisk et al. 1996 and Banthin and Taylor 1999) have found evidence of favorable selection under fully-capitated Medicaid managed care programs that have voluntary enrollment.

⁴ Poverty-related populations include beneficiaries who are eligible for Medicaid due to the receipt of cash assistance or because of state expansions to low-income populations.

⁵ The SSI program provides cash assistance to low-income blind and disabled persons.

more closely connected to the local health care market and plans that have an organizational mission to serve vulnerable populations to be less likely to exit from MMC. To test the latter hypothesis, we include indicators for whether a plan is 1) affiliated with a Blue Cross/Blue Shield (BC/BS) organization, 2) affiliated with a national managed care firm, 3) a provider-sponsored independent organization, or 4) another type of independent organization. We hypothesize that BC/BS plans and independent plans are more likely to have an organizational mission to serve the Medicaid population in a local community than plans affiliated with national managed care firms (where participation decisions may be made at a corporate level).

We also include an indicator for whether the plan is for-profit or not-for-profit. We also would expect not-for-profit plans to be more likely to have a sense of mission or obligation toward serving the Medicaid population and, therefore, to be less likely to exit from MMC, all else equal.

Finally, we include an indicator for whether a plan is a “closed” model plan (i.e., either a staff or group model plan). Since closed model plans place more restrictions on the utilization patterns of enrollees, we hypothesize that these plans are less likely to exit from Medicaid as they have more opportunities to control costs and, thereby, increase the likelihood that their Medicaid line of business will be profitable.

The extent to which a plan has invested in the Medicaid market is also expected to influence its decision to exit. We capture the plan’s commitment to MMC at both the county level and the state level. Our county-level measure is the plan’s share of the total county Medicaid market (measured as plan Medicaid enrollment divided by county Medicaid population). This measure reflects the plan’s ability to exert bargaining power in the local provider market, which in turn, could make serving the Medicaid population less costly. Our

state-level measure is the share of counties in the state in which the plan enrolls Medicaid beneficiaries. We hypothesize that a plan with a higher share of Medicaid enrollment and a plan that is operating in MMC in more counties in a state will be less likely to divest of its Medicaid line of business.

Finally, plans with larger enrollments and plans with more years of experience are likely to operate more efficiently, making them better able to control costs and increase the returns of their Medicaid line of business. Larger plans are also more likely to obtain purchasing discounts and to achieve economies of scale. To account for this, we control for the plan's age and total enrollment level.

Characteristics of the Market. A key element that is likely to affect a plan's decision to continue participating in MMC in a market is the relative return to Medicaid as compared to the returns in alternative lines of business in that market (i.e., Medicare and private insurance). The potential effect of these relative price measures is ambiguous. As the relative returns to the commercial and Medicare markets increase, plans may be more likely to exit from Medicaid to invest in those markets.⁶ Conversely, higher relative prices in the commercial and Medicare markets could increase the ability of plans to cross-subsidize their Medicaid line of business, lowering the likelihood of plan exit from MMC. A plan might choose to cross-subsidize its Medicaid line of business if it had a goal of enrollment maximization, market share growth, or market diversification, for example.

Other local health care market characteristics may also influence a plan's decision to exit from MMC in that market. This includes the extent to which operating in the local market is profitable. To capture profitability in the market, we include a measure of the median operating

⁶ See Sloan et al. (1978) for a discussion of this "two-market" theory in the context of physician participation in Medicaid.

profit margin in the area. We hypothesize that plans in areas that have higher overall operating profit margins will be less likely to exit from Medicaid, all else equal. We also hypothesize that plans will be less likely to exit from markets with larger populations because there is a greater potential for economies of scale in service delivery.

The competitiveness of the local managed care market and the competitiveness of the local provider market are also factors that may affect plan participation. More competitive markets may make it more difficult for plans to obtain favorable rates for health care services, and therefore, increase the likelihood of exit from MMC. We measure the competitiveness of the local markets using Herfindahl-Hirschman Index values to measure the competition in county managed care and hospital markets.⁷ We capture the competitiveness of the physician market using the number of non-federal physicians per 10,000 persons in the county.

Our final measure is an urban county indicator. We hypothesize that plans in urban markets will be less likely to exit than plans in rural areas because the more extensive health care systems in urban areas make it easier for plans to manage care and control costs.

Limitations. Beyond these measures, there are other factors that could also affect a commercial plan's decision to continue in or exit from MMC in a county. These include both Medicaid policy measures (e.g., the administrative burden of MMC) and characteristics of the plan (e.g., the plan's financial status). Unfortunately, we do not have access to data for all states and for all plans on the complete set of factors that could play a role in the plan's participation decision. This is particularly problematic at the state level as there may be additional state policies that are affecting plan's participation decisions that we are not capturing in our model. Consequently, this analysis should be viewed as a first step in understanding the factors that

⁷ The Herfindal-Hirschman Index of competition is calculated by squaring each plan's market share within a county and adding these values together. An index value closer to 0 indicates that the market is competitive, i.e., it consists of a large number of plans with relatively equal shares of the market.

influence commercial plans' decisions to exit from MMC.⁸ Better and more comprehensive data are needed to support a more thorough analysis of commercial plans' MMC exit decisions.

A second limitation of the study is that it is a cross-sectional analysis. As such, we are able to identify associations between these factors in our model and MMC exits, but cannot determine whether the exits are caused by those factors.

Data Sources

To conduct this analysis, we rely on county Medicaid enrollment data by plan for 2000 and 2001. We examine plan participation in Medicaid at the county level since states generally contract for Medicaid managed care on a county-by-county basis.^{9 10} Under this framework, the unit of analysis in our study is a plan-county observation (e.g., Aetna in Yuma County, Arizona).

Our data on plan-county MMC participation were obtained from InterStudy Publications, an organization that tracks trends in plan services, enrollment, and profitability using surveys of plans (with 80 to 90 percent response rates) and publicly-available data.¹¹ Based on InterStudy data for 2000, we identify commercial plans¹² that were serving Medicaid beneficiaries in a particular county as of January 1, 2000. We use InterStudy data for 2001 to identify plans that had exited from Medicaid in that county as of January 1, 2001. This provides a sample of 182 commercial plans participating in MMC in 869 counties in 2000, for a total of 1,356 plan-county

⁸ As is discussed further below, we estimate a state fixed-effect model to explore the sensitivity of our findings to the particular set of state-specific measures included in our model.

⁹ There are exceptions to this pattern: States sometime establish managed care contracts for a group of counties or, as has happened in New York City, for a group of zip codes.

¹⁰ We limit the counties included in the study to those that had fully-capitated MMC programs in 2000, as reported in the *National Summary of State Medicaid Managed Care Programs* and *Medicaid Managed Care Enrollment Report* from the Centers for Medicare & Medicaid Services.

¹¹ We rely on the InterStudy Competitive Edge database as our primary data source, supplemented with information from the InterStudy County Surveyor database. We obtain information on plan characteristics from the Competitive Edge database and plan enrollment data at the county level (including a measure of county Medicaid enrollment) from The County Surveyor database. Additional information about the InterStudy data can be found at www.decisionresources.com/InterStudy%20Web/ISHome.asp.

¹² As noted earlier, we define commercial plans as plans with less than 25 percent of their enrollment in Medicaid.

observations. After we eliminate observations with missing values for the explanatory variables included in our model, the final analysis sample is 1115 plan-county observations.

Although InterStudy seeks county-level enrollment data from the plans, for 21 plans (representing 146 plan-county observations) InterStudy was only able to collect Medicaid-enrollment at the state and MSA level for 2000 or 2001. For counties in MSAs, InterStudy derived county-level enrollment numbers for these plans by allocating the MSA-level enrollment across the counties in which the plan participated in MMC according to the relative sizes of the county populations. For rural counties, the non-MSA-level enrollment was allocated in a similar manner to all rural counties served under MMC by the plan. Since this study is only concerned with whether there was any Medicaid enrollment for the plan in a county in each year, the precision of this imputation method is not a concern. There is a chance, though, that the process may have assigned Medicaid enrollment to a county where none existed, or failed to assign MMC enrollment to a county where it did exist, thereby, causing some error in our exit status variable. We used Medicaid managed care enrollment data obtained from 38 states for another project to check the validity of the imputations of the county-level data. Based on those state data we determined that the allocation of county-level data was correct for most cases (139 plan-county observations); only 7 plan-county observations were recoded as having no Medicaid managed care in 2001 based on the data provided by the states.

We also used the state data to confirm plan exits from Medicaid managed care. We found that, with few exceptions, the exits reported in InterStudy were confirmed by the state data. Only 16 plan-county observations that were reported as having exited from MMC based on InterStudy data were found to have existed in 2001 based on the state data. We re-coded those plan-county observations as continuing plans.

For the analysis of plan exits, we assume that a plan's decision to exit from or continue in MMC is a function of plan and market characteristics as of 2000, the year prior to the exit decision. InterStudy data was the source for all plan characteristics, including age of plan, affiliation and sponsorship, tax status, Medicaid market share, Medicaid enrollment as a percent of total enrollment, total plan enrollment, percent of counties in a state that serve Medicaid beneficiaries, and total plan market share, which was used to calculate the Herfindahl-Hirschman Index of county managed care market competitiveness.

We measure these relative returns in the private market and Medicare to the returns under MMC as the ratio of the average employer-sponsored insurance premiums for family coverage in the county to the Medicaid capitation rate in the county, and the ratio of average M+C rates in the county to the Medicaid capitation rate in the county. Data for the average premium for employer family coverage came from Medical Expenditure Panel Survey (MEPS) and County Business Patterns (CBP) data. The MEPS provides single and family premium data by state and firm-size category. The CBP provides the share of workers in a given firm size category. The measure of county-level premiums is constructed by multiplying the share of workers in each firm-size category in the county with the corresponding premium data for that firm-size category in the state, and summing up the values across the firm-size categories for the county.

Capitation rates for the M+C program come from the CMS website.¹³ Medicaid capitation rate data and information on service carve-outs under MMC came from a 2001 Urban Institute survey of state Medicaid program officials (Holahan and Suzuki, 2003). In order to make the Medicaid capitation rates comparable across counties, several adjustments were made to account for differences in the way states address age and gender risk adjustments, regional

¹³ M+C capitation rates come from <http://www.cms.hhs.gov/healthplans/rates/2000/cover-00.asp>, accessed June 2004.

variation, service carve outs, and special payments for maternity care, disproportionate hospital payments and graduate medical education.¹⁴

Both Medicaid and the commercial capitation rates were adjusted for geographic differences in health care prices using the geographic adjustment factor used in the Medicare program. The calculation of M+C capitation rates already accounts for geographic differences in prices.

To identify counties with mandatory enrollment in fully-capitated MMC programs for physical health for both poverty-related and SSI Medicaid populations, we supplemented data used in prior research (Long et al. 2003; Garrett et al. 2003; Zuckerman et al. 2003) with additional data from CMS' 2000 *National Summary of State Medicaid Managed Care Programs* and *Medicaid Managed Care Enrollment Reports*. These reports contain information on the types of managed care offered by the state (e.g., mandatory or voluntary, fully-capitated or primary care case management); the types of populations served (e.g., SSI beneficiaries, pregnant women, children), and the geographic areas served as of June 30, 2000.

The Herfindahl-Hirschman Index of county hospital market competitiveness was calculated using market share data from 2000 American Hospital Association survey data. Data identifying urban counties, the number of primary care physicians per 10,000 people in a county and total county population in 2000 were obtained from the 2003 Area Resource File. In preliminary analyses we determined that total county population affected the exit decision in a non-linear fashion, therefore, we capture total county population in our model with dummy variables that identify whether a county's total population is in the bottom quartile or the top

¹⁴ More details regarding the construction of the final capitation rates and carve-out measures can be found in Holahan and Suzuki (2003).

quartile of size distribution (the county population in the middle two quartiles is the reference category).

Empirical Methods

Our analysis focuses on a plan's decision on whether to continue in or exit from MMC in a county in 2001. We first document changes in plan participation in MMC between 2000 and 2001. We then compare the mean values for explanatory variables between those plans that continued serving Medicaid in 2001 and those that exited. Finally, we estimate logit models that predict the probability of an exit from MMC in a county in 2001 as a function of the characteristics of the Medicaid program, the plan and the local health care market in 2000.¹⁵

Results

Descriptive Findings on Plan Participation in the Medicaid Market

We begin our analysis by looking at the changes that were taking place in the Medicaid managed care market between 2000 and 2001. Table 1 shows the number of commercial plans that were participating in Medicaid, the number of counties that had commercial plans and the number of plan-county observations during this period. We find that the decline in commercial plan participation in MMC reported in earlier work (Felt-Lisk 1999; Felt-Lisk et al. 2001) was reversed in 2001, with 57 plans exiting and 68 plans entering the Medicaid market between 2000 and 2001--a net increase of 11 plans. This net change in plans translated into 98 additional counties having commercial plans in MMC by 2001. Although not a focus of this study, Table 2 shows that, relative to plans that were in the MMC market in 2000, commercial plans that entered in 2001 tended to be younger and smaller. Entering plans were also more likely to be provider-sponsored plans and for-profit plans.

¹⁵ Our definition of a market exit includes plans that left the market in 2001 due to mergers or acquisitions, irrespective of whether the newly formed company remained in the county Medicaid market. This affected 19 of our plan-county observations.

Descriptive Findings on Differences Between Exiting and Continuing Plans

Turning to the analysis of plan exits by county, we compare plan-county observations for plans that continued to participate in MMC in 2001 to those that exited MMC by that year in Table 3. For the most part, the differences between the plans that continued to participate in Medicaid and those that exited are consistent with our expectations. Commercial plans that exited from MMC are more likely to be in counties with lower Medicaid capitation rate levels and lower growth rates. They are also more likely to be in counties that mandated enrollment in fully-capitated managed care programs for poverty-related Medicaid beneficiaries. Finally, exiting plans are more likely to be in states that carve out prescription drugs in the MMC programs. As discussed further below, this may indicate that carving out prescription drugs reduces a plan's ability to manage a service that are an important component of the delivery of physical health care.

In terms of plan characteristics, plans that exited from Medicaid tend to be younger and smaller. Exiting plans also tend to be for-profit plans that use open service models of care delivery. They also tend to serve Medicaid beneficiaries in a smaller share of counties within a state and to have a smaller share of the county MMC market than the plans that continued in MMC. Affiliation does not vary between the two groups of plans.

In terms of market characteristics, exiting plans are more likely to be in counties with higher commercial and Medicare relative price ratios, suggesting that exiting plans may be making a decision to focus their business on more profitable markets than Medicaid. Exiting plans are also more likely to be in counties with more competitive managed care markets. This may suggest that the effects of competition on provider costs may be an important factor in exits from MMC. Exiting plans also tend to be in areas where plans have lower overall operating

profit margins, indicating that financial profitability of the market may be an important factor in a plan's decision to exit from MMC. Finally, exiting plans are more likely to be in urban counties, contrary to expectations. We address this issue below.

Multivariate Analysis of Exiting and Continuing Plans

While the descriptive analysis provides insights into the factors associated with exits from MMC, it does not isolate the independent effects of the different factors nor does it provide a sense of the relative importance of the factors in predicting plan exits. To obtain that information, we turn to multivariate analysis. Table 4 summarizes our findings for the model of the probability of a MMC exit. We report our results as odds ratios from the logit regression analysis. Odds ratios, which are derived from the coefficient estimates of the logit model, are interpreted as the odds of exiting from MMC. We also simulate the effects of changes in the explanatory variables to provide a sense of the relative magnitude of the influence of the different variables on the probability that a plan exits from MMC. For dummy variables, such as whether the plan is a for-profit plan, we simulate the effect of a shift from “no” to “yes” (i.e., the shift from 0 to 1). For continuous variables, such as Medicaid capitation rates, we simulate the effect of an increase of $\frac{1}{2}$ standard deviation from the mean.

As shown in Table 4, we find strong effects of Medicaid capitation rate levels, capitation growth rates, and other Medicaid policies on the probability of a plan exiting from MMC. An increase in the Medicaid capitation rate of $\frac{1}{2}$ standard deviation leads to a 3.3 percentage point drop in the probability that a plan exits from MMC, all else equal. Similarly, an increase in the capitation growth rate reduces the probability of exit by 2.5 percentage points.

Service carve-outs and mandatory enrollment in fully-capitated managed care also have significant effects on plan exits. Plans that face a carve-out for prescription drugs are more likely

to exit (13.1 percentage points), while facing a mental health carve-out *reduces* the probability of exit (10 percentage points). These results appear to suggest that carving out services like mental health care, which typically are not integrated into the delivery of physical health care, may make plans more likely to stay, while carving out services that are integral to the delivery of physical health care, like prescription drugs, increases the probability of exit.

Contrary to the descriptive results, the requirement that the SSI Medicaid population enroll in fully-capitated managed care is associated with a greater likelihood of exit, with mandatory enrollment contributing to a 10 percentage point increase in the probability of exit. The mandatory enrollment of the poverty-related population is also associated with an increased probability of exit, although it is not statistically significant. As discussed earlier, plans in counties with mandatory enrollment in fully-capitated MMC may be less able to benefit from the favorable selection that often occurs under other forms of managed care.

Plan characteristics are also strong predictors of plan exits in the multivariate analysis. After controlling for other factors, plans with a larger share of the local MMC market and plans that are serving Medicaid enrollees in more counties within the state are less likely to exit from MMC in a county. An increase in the plan's Medicaid market share in the county is associated with a 3.3 percentage-point decrease in the probability of exit in the county, while an increase in the share of counties served by the plan leads to a 4.6 percentage-point decrease in the probability of exit.¹⁶

The multivariate analysis also shows significant effects of model type, plan sponsorship, and for-profit status. Plans with a closed model and provider-sponsored plans are less likely to exit, while for-profit plans are more likely to exit from MMC in a county, all else equal.

¹⁶ As noted earlier, we treat the plan's decisions in 2000 as exogenous to the exit decision in 2001. If we exclude those variables from the analysis, our findings are generally similar to the findings reported here.

Finally, market characteristics are also important. Exits from MMC are less likely in counties with private capitation rates that are higher relative to Medicaid rates and in the local areas where plans' operating profit margin is higher. In contrast, exits are more likely in less populated counties, in counties with a lower concentration of physicians and in urban counties.

The finding that higher private capitation rates relative to Medicaid rates *decreases* the likelihood of exit is opposite to what the descriptive analysis showed. This suggests that the independent effect of higher rates in the private market may be to subsidize the costs of care in the Medicaid market, helping plans to continue in MMC rather than exiting, all else equal.

The association between physician supply and probability of exiting from MMC could suggest that a tighter supply of physicians makes it more difficult for plans to negotiate favorable physician rates. It could also suggest that plans have a harder time recruiting providers to serve their Medicaid clients in such markets.

It is not clear how to interpret the finding that plans are more likely to exit from MMC in urban counties than rural counties. We suspect that it may indicate that plans that have decided to enter MMC in rural markets are more committed to remaining in those markets than in urban markets, all else equal. This would be true, for example, for plans that viewed the Medicaid managed care market as a way to gain entry into rural managed care markets more generally (Moscovice, Casey, and Krien 1998). For these plans, participation in MMC in rural areas would be part of a larger growth strategy.

Because our analysis is only able to control for a limited number of state Medicaid program characteristics, we also estimated a state fixed-effects model as a check on whether our other findings would persist with a general control for state differences. We find that our results

for the effects of capitation rates, plan characteristics and market characteristics (including being in an urban area) are generally robust to this alternative specification of the model.

Discussion

Commercial plans continue to be an important segment of the MMC market, serving more than half of all enrollees in MMC (Felt-Lisk et al. 2001) and, as we show here, increasing their participation in MMC slightly between 2000 and 2001 after exiting from the market in the late 1990s. Given the potential gains for Medicaid beneficiaries from access to mainstream health care providers and the potential adverse effects of plans leaving MMC market on continuity of care for enrollees, there are clear reasons states may want to invest in maintaining commercial plan participation in MMC. For states with a goal of encouraging commercial plan participation in MMC, our findings suggest several factors they should consider in formulating their MMC policies.

First, we find, not surprisingly, that higher MMC capitation rate levels *and* higher growth rates in capitation rates are associated with a lower probability that a commercial plan exits from Medicaid. Second, we find that other Medicaid policies also matter. Service carve-outs can encourage plan participation by removing the burden of providing expensive services or discourage participation by limiting the plan's ability to manage patient care. We found that carving out mental health care services, which are not typically integrated into physical care management, made plans *less* likely to exit, while carving out prescription drug services, which are more central to physical care management, made plans *more* likely to exit. States may want to examine the extent to which carve-out policies affect plans' ability to manage care as part of their MMC design process.

We also find that counties with mandated enrollment into fully-capitated managed care for SSI beneficiaries are more likely to lose commercial plans than counties that do not have mandatory enrollment. This finding is of particular concern as it suggests that states that have made a commitment to fully-capitated managed care are most likely to lose commercial plan participation. It may be that once commercial plans are no longer able to benefit from the favorable selection that often occurs under other types of managed care, they are not able to achieve adequate returns on their Medicaid line of business at the capitation rates provided.

The stronger negative effect of mandatory enrollment for the SSI population than the poverty-related population likely reflects the greater costs and risks associated with serving a disabled population. While capitation rates could, in theory, adjust for differences in the cost of providing care to enrollees with different levels of disability, few states have implemented rate differentials that adjust for health status. Further, plans have reported that MMC rates do not fully compensate for the additional costs of serving the SSI population (Coughlin, Long and Holahan, 2001).

Third, although Medicaid capitation rates and other policies play an important role in the plan's decision to exit from MMC, other factors are also important. Plans that have a larger share of the MMC market in a county and plans that have invested in MMC in a larger share of the counties in a state are less likely to exit than plans with a more limited MMC investment. Plans that invest heavily in Medicaid are likely to be better able to spread the fixed costs of participating in the Medicaid program and to pool risk more effectively than the plans with a more marginal investment in Medicaid.

Our study findings on the importance of the investment in the Medicaid line of business may be explained in part by changes in the commercial market over the late 1990s and early

2000s. With enrollment in managed care in the private market declining, commercial plans have moved toward more inclusive provider lists and less restrictive managed care products for their commercial line of business (Draper, Hurley, Lesser and Strunk 2002). As a result of these changes, the marginal costs of serving the Medicaid population may be increasing, with bigger plans and plans with larger Medicaid enrollment better able to cover those costs. For example, some big commercial plans with large investments in MMC have developed MMC products as a separate line of business from other product lines. This separation has enabled these plans to utilize traditional managed care approaches and more limited provider networks for the Medicaid population while relaxing the managed care model for their other lines of business. While this strategy may permit plans to continue participating in MMC, it is worth noting that it represents a move away from the goal of “mainstreaming” the Medicaid population into the same health care system used by individuals with private insurance.

Despite these basic changes in the MMC market, our findings offer some optimism for the stability of commercial plan participation in MMC. First, we show a slight increase in commercial plan participation in MMC over the 2000/2001 time period. Second, recent research has found that commercial plans that remain in Medicaid markets are serving more Medicaid enrollees than in the past (Felt-Lisk et al. 2001). If this trend holds, our study results would suggest that the probability of commercial plan exits from the MMC should decline in the future. Furthermore, states might consider taking advantage of this pattern by expanding plan enrollment under MMC. This could be accomplished by limiting the number of plans awarded contracts within a county and/or by contracting with plans for groups of counties.

Beyond these factors, we also found that other plan characteristics are important predictors of commercial plan exits. In particular, provider-sponsored plans and not-for-profit

plans are less likely to exit than other plans. These plans may be more likely to have a sense of social mission or obligation toward serving the Medicaid population and, consequently, be less likely than other plans to exit when facing the same MMC rates and policies. This is consistent with qualitative research on the factors that affect commercial plan participation in MMC (Coughlin, Long and Holahan 2001).

Finally, the general health care market also affects plan exits from MMC. Plans in markets with higher operating profit margins and higher commercial rates relative to Medicaid rates are less likely to exit MMC. These findings may suggest that commercial plans in the MMC market are focused on their overall bottom line (rather than just the returns to their Medicaid line of business) in deciding whether to remain in the MMC market.

While we are not aware of other empirical studies examining the factors affecting commercial plan exits from MMC, there is a growing literature examining plan exits from the M+C market. Our results are generally consistent with that literature. Glavin et al. (2002) and Lake and Brown (2002) find that lower payments are associated with a high probability of exit from the M+C program, as is being a for-profit plan. Glavin et al. (2002) also find that plans with a larger share of the market are less likely to exit.

Conclusion

Our results suggest that many of the factors that influence the exit decisions of commercial plans are within the control of state policymakers and program administrators. States that hope to maintain or encourage commercial plan participation in MMC need to establish sound capitation rates and have reasonable increases in those rates over time so that payments reflect the costs of serving the populations enrolled in MMC. States must also take care to ensure that other program policies (e.g., service carve-outs) are not interfering with the ability of plans

to manage care for Medicaid beneficiaries. To increase retention rates for commercial plans, states should also pay attention to ensuring that plans are able to enroll an adequate number of Medicaid enrollees. Finally, states concerned with keeping commercial plans in their MMC programs may want to monitor changes in the broader managed care market since the returns in the private market and the overall profitability of managed care in a market appear to have implications for commercial plans decision to continue in or exit from MMC.

Table 1: Commercial Plan Participation in MMC Between 2000 and 2001

Plans	Number of HMOs	Number of Counties	Number of HMO-County Observations
Total Plans in 2000	182	869	1,356
Plans Exiting by 2001	57	230	282
Plans Entering in 2001	68	328	440
Total Plans in 2001	193	967	1,514
<i>Net Change Between 2000 and 2001</i>	11	98	158

Source: Urban Institute tabulations using InterStudy data.

Table 2. Comparison of Plan Characteristics for Plans in MMC in 2000 and Plans Entering MMC in 2001

Plan Characteristic	Plans in MMC in 2000 (N= 179)	Plans Entering MMC in 2001 (N= 66)
Age of plan (years)	18.22	15.00
Plan's total number of enrollees in county (thousands)	32.21	20.23
Plan uses closed managed care model	0.218	0.197
Plan is affiliated with national managed care firm	0.318	0.318
Plan is affiliated with BCBS	0.145	0.121
Plan is independent firm	0.536	0.561
Plan is provider sponsored	0.212	0.242
Plan is for-profit	0.587	0.621

Source: Urban Institute tabulations using InterStudy data.

Table 3: Summary of Explanatory Variables, by Plan Exit Status

Variable	Exiting Plans	Continuing Plans	Difference
Medicaid payment and other policies			
Medicaid capitation rate (\$)	136.83	150.13	-13.30 ***
Growth in Medicaid capitation rates (standardized)	0.05	0.06	-0.01 ***
State carves out mental health services	0.52	0.54	-0.03
State carves out pharmacy services	0.55	0.34	0.22 ***
Poverty-related population required to enroll in HMO in county	0.67	0.72	-0.05 *
SSI population required to enroll in HMO in county	0.25	0.23	0.02
Plan characteristics			
Age of plan (years)	14.61	19.79	-5.18 ***
Plan's total number of enrollees in county (thousands)	11.15	26.21	-15.06 ***
Plan uses closed managed care model	0.10	0.24	-0.14 ***
Plan is affiliated with national managed care firm	0.33	0.31	0.02
Plan is affiliated with BCBS	0.16	0.18	-0.02
Plan is independent firm	0.51	0.51	0.00
Plan is provider sponsored	0.12	0.17	-0.05 *
Plan is for-profit	0.71	0.58	0.13 ***
Plan's share of county MMC market	0.11	0.19	-0.08 ***
Share of counties in state in which plan has MMC enrollment	0.41	0.63	-0.22 ***
Market characteristics			
Private capitation rate/Medicaid capitation rate	4.42	4.13	0.29 ***
M+C capitation rate/Medicaid capitation rate	3.61	3.27	0.34 ***
Median operating profit margin in local area (standardized)	-0.01	-0.01	-0.01 ***
Competitiveness of HMO market in county (HHI)	0.33	0.39	-0.06 ***
Competitiveness of hospital market in county (HHI)	0.56	0.56	-0.01
Total number of physicians per 10,000 population in county	17.94	18.67	-0.74
County population in lowest quartile	0.23	0.25	-0.02
County is urban	0.68	0.61	0.08 **
Sample size	272	883	

Source: Urban Institute tabulations using InterStudy and other data.

* (**) (***) Significantly different from zero at the .10 (.05) (.01) level, two-tailed test.

Note: The growth in the capitation rate is measured relative to the average growth across the states. The median operating profit margin is measured relative to the median profit margin across the states.

Table 4: Odds Ratios and Simulations from Logit Model of MMC Exit

Variable	Odds Ratios	Change in Predicted Probability of Exit ¹			
		With a change in value from 0 to 1		With an increase of 1/2 standard deviation (STD)	
			Change in probability	Mean	STD/2
Medicaid payment and other policies					
Medicaid capitation rate (\$)	0.98 **	--	-3.3	147.0	31.2
Growth in Medicaid capitation rates (standardized)	0.54 ***	--	-2.5	1.0	0.5
State carves out mental health services	0.50 ***	-10.0	--	--	--
State carves out pharmacy services	2.37 ***	13.1	--	--	--
Poverty-related population required to enroll in HMO in county	1.33	--	--	--	--
SSI population required to enroll in HMO in county	1.88 **	10.0	--	--	--
Plan characteristics					
Age of plan (years)	0.99	--	--	--	--
Plan's total number of enrollees in county (thousands)	0.99	--	--	--	--
Plan uses closed managed care model	0.51 ***	-8.7	--	--	--
Plan is affiliated with BCBS	1.35	--	--	--	--
Plan is independent firm	1.39	--	--	--	--
Plan is provider sponsored	0.28 ***	-14.0	--	--	--
Plan is for-profit	1.70 **	7.4	--	--	--
Plan's share of county MMC market	0.08 ***	--	-3.3	0.2	0.2
Share of counties in state in which plan has MMC enrollment	0.13 ***	--	-4.6	0.6	0.4
Market characteristics					
Private capitation rate/Medicaid capitation rate	0.54 **	--	-3.3	4.2	0.8
M+C capitation rate/Medicaid capitation rate	0.96	--	--	--	--
Median operating profit margin in local area (standardized)	0.88 ***	--	-2.4	-0.9	2.3
Competitiveness of HMO market in county (HHI)	0.59	--	--	--	--
Competitiveness of hospital market in county (HHI)	1.19	--	--	--	--
Total number of physicians per 10,000 population in county	1.01	--	--	--	--
County population in lowest quartile	1.70 **	8.2	--	--	--
County population in higher quartile	0.81	--	--	--	--
County is urban	2.36 ***	11.6	--	--	--
Sample size	1155				
Chi-square (df=24)	190.30				

Source: Urban Institute tabulations using InterStudy and other data.

* (**) (***) Significantly different from zero at the .10 (.05) (.01) level, two-tailed test.

Notes: The growth in the capitation rate is measured relative to the average growth across the states. The median operating profit margin is measured relative to the median profit margin across the states. The logit model correctly predicts exit status for 81 percent of all observations. Looking at the accuracy of predictions by exit type, 95 percent of plans that actually remained in Medicaid were accurately predicted as not exiting Medicaid and 35 percent of plans that actually exited were accurately predicted as exiting Medicaid. The lower rate of accurate predictions for exiting plans is an expected result of logistic regressions when they are trying to predict an event that occurs less frequently.

¹We estimate changes in the predicted probability of exit for variables that have a significant effect on the probability of exit in the multivariate analysis.

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