Plan Characteristics and SSI Enrollees' Access to and Quality of Care in Four TennCare MCOs

Steven C. Hill and Judith Wooldridge

Objective. To assess hypotheses about which managed care organization (MCO) characteristics affect access to care and quality of care—including access to specialists, providers' knowledge about disability, and coordination of care—for people with disabilities.

Data Sources/Study Setting. Survey of blind/disabled Supplemental Security Income (SSI) enrollees in four MCOs serving TennCare, Tennessee's Medicaid managed care program, in Memphis, conducted from 1998 through spring 1999.

Study Design. We compared enrollee reports of access and quality across the four MCOs using regression methods, and we use case study methods to assess whether patterns both within and across MCOs are consistent with the hypotheses.

Data Collection. We conducted computer-assisted telephone surveys and used regression analysis to compare access and quality controlling for enrollee characteristics.

Principal Findings. Although the four MCOs' characteristics varied, access to providers, coordination of care, and access to some services were generally similar across MCOs. Enrollees in one plan, the only MCO with a larger provider network and that paid physicians on a fee-for-service basis, reported their providers were more knowledgeable, and they had more secondary preventive care visits. Differences found in access to specialists and delays in approving care appear to be unrelated to characteristics reported by the MCOs, but instead may be related to how tightly utilization is reviewed.

Conclusions. Plan networks, financial incentives, utilization management methods, and state requirements are important areas for further study, and, in the meantime, ongoing monitoring of SSI enrollees in each MCO may be important for detecting problems and successes.

Keywords. Managed care, disability, Medicaid

Supplemental Security Income (SSI) recipients are enrolling in Medicaid managed care; their needs are extensive, diverse, and complex; and those needs may challenge managed care organizations (MCOs). In 1998, a quarter of nonelderly Medicaid enrollees with disabilities were in managed care (Regenstein and Schroer 1998). SSI recipients have low incomes and disabilities preventing substantial gainful employment. Their disabilities

include mental illness, mental retardation, and physical or sensory disabilities, including conditions such as cerebral palsy, severe asthma, and blindness. They often need ongoing specialist care; many also require extensive social supports and coordination to address limitations in functioning. Managed care is an opportunity to improve care coordination, but capitated plans have an incentive to reduce service use, and health and independence can decline severely if proper services are not delivered (Smith and Ashbaugh 1995; Tanenbaum and Hurley 1995).

Little is known about the MCO characteristics that promote and impede care for people with disabilities. McCall (1989) found people with disabilities' access and satisfaction differed by HMO model. Empirical studies of other populations typically focus on broad plan characteristics, including HMO model and tax status, and often find conflicting results (Clement et al. 1992; Himmelstein et al. 1999; Felt-Lisk et al. 2001; Landon et al. 2001; Moreno et al. 2001; Safran et al. 2000). Care for people with disabilities, however, is likely affected by specific plan characteristics, such as case management programs, and important dimensions of care include coordinated care and access to knowledgeable providers. Our case study of four MCOs in TennCare, Tennessee's Medicaid managed care program, focused on these issues.

TennCare was an interesting study setting for four reasons. First, diverse MCOs participated in TennCare. Second, TennCare had operated for several years, so MCOs had an opportunity to develop care management programs for people with disabilities (Gold and Aizer 2000). Third, TennCare is similar to many Medicaid managed care programs enrolling SSI recipients, because for example, TennCare has mandatory enrollment and, until July 2001, the same MCOs served SSI and other enrollees (Regenstein and Schroer 1998). Fourth, Hill, and Wooldridge (2002) found SSI enrollees in TennCare had mixed experiences, and they faced problems in areas particularly important to people with disabilities. Relative to other TennCare enrollees, SSI enrollees

The research was funded by the U.S. Department of Health and Human Services (DHHS), Assistant Secretary for Planning and Evaluation and the Health Care Financing Administration through a contract with Mathematica Policy Research, Inc. The views expressed in this paper are those of the authors, and no official endorsement by the Agency for Healthcare Research and Quality, DHHS, or Mathematica Policy Research is intended or should be inferred.

Address correspondence to Steven C. Hill, Ph.D., Service Fellow Economist, Center for Cost and Financing Studies, Agency for Healthcare Research and Quality, 2101 E. Jefferson St., Ste. 500, Rockville, MD 20852. Judith Wooldridge, M.A., is Vice President, Mathematica Policy Research, Inc., Princeton, NJ.

had similar or slightly worse access to care and satisfaction. A significant minority of SSI enrollees reported unmet needs for care, such as not getting referrals to specialists and unmet needs for prescription drugs and special medical equipment. Lack of care coordination was a problem for some SSI enrollees. This paper explores how these experiences differed among MCOs.

This paper is organized as follows. Hypotheses about how plan characteristics may affect specific aspects of care for people with disabilities are presented. The methods section begins with a brief description of the study setting and the four MCOs, including hypotheses about the effects of these MCOs' characteristics. Then we describe the enrollee survey and statistical methods. In the results section, we present regression-adjusted access and quality measures, and we use case study methods to assess whether patterns both within and across MCOs are consistent with the hypotheses. The paper concludes with implications for monitoring care for people with disabilities in managed care.

PLAN CHARACTERISTICS AND PEOPLE WITH DISABILITIES

Many managed care plan characteristics are likely to affect access and quality for vulnerable populations, such as people with disabilities (Gold, Thornton et al. 1998; Master et al. 1996; Medicaid Working Group 1995; National Chronic Care Consortium 1995).

Provider Networks

Enrollees in plans with larger networks may more easily find knowledgeable providers who understand how disability affects their patients' lives, which is important because quality of life (rather than cure) is a key outcome for people with disabilities. In plans with larger networks, enrollees may also have a greater chance of finding physicians with, for example, shorter patient waiting and travel times. More specifically, people with disabilities and their advocates recommend that networks should include (1) primary care providers knowledgeable about mental illness and skilled in interacting with people with mental retardation, and (2) specialists with experience in treating rare conditions and conditions requiring specialized care. When plans permit specialists to be gatekeepers, people with disabilities may be more likely to have knowledgeable providers.

Financial Incentives for Providers

Because they are not paid for each service provided, capitated providers have less incentive to promote access (Safran et al. 2000). Although capitated providers may provide more preventive care to avoid higher future use and referrals (Cummings et al. 1989), fee-for-service providers are paid directly for preventive care services, and hence may have a greater incentive to provide these services.

Utilization Management

Care coordination may be better when plans have treatment protocols, disease management programs, and case managers who coordinate both medical and nonmedical services. On the other hand, people with disabilities would not be well served by the rigid application of treatment protocols, because people with disabilities have diverse needs, including for example, comorbid conditions. Utilization management methods that may promote access to services (such as specialist physicians and special medical equipment) include quick referral processes and utilization review staff who are qualified to review disability issues.

METHODS

We studied the four largest TennCare MCOs in Memphis, Tennessee, in 1998 and 1999, using case study methods, a survey of SSI enrollees, and regression analysis to control for differences in enrollee characteristics across MCOs.

TennCare

In January 1994, Tennessee enrolled all Medicaid beneficiaries into capitated MCOs. In January 2000, there were 1.3 million TennCare enrollees, including about 122,000 nonelderly blind or disabled SSI recipients. In December 2001, 10 MCOs operated in TennCare and provided acute medical and surgical care, as well as most prescription medications, durable medical equipment, home health, and other services. Enrollees have an annual opportunity to switch MCOs. Long-term care, including institutional care and services provided under home- and community-based service waivers, is paid fee-for-service. Mental health and substance abuse treatment is covered in a separate managed care program. This article focuses on the acute care services

provided by the MCOs to people living in the community in the period 1998 to 1999 who did not use long term care.

The state paid all MCOs the same monthly capitation rate for blind/disabled SSI enrollees and for other people with disabilities.¹ A small risk pool—less than 2 percent of the budget for capitation payments—provided supplemental payments for limited high-cost members. Approximately half of the risk pool paid for high-risk pregnancies and premature births, and the rest paid for organ transplants, cystic fibrosis, acquired immune deficiency syndrome, and coagulation defects (Hill, Thornton et al. 2002). Nearly all states enrolling people with disabilities in capitated managed care try to pay plans according to the needs of their enrollees (National Academy for State Health Policy 2001).

There were no special program modifications for SSI enrollees before July 2001.² Case management was not required in the state contract with the MCOs, but the MCOs could offer it anyway. TennCare's contracts with MCOs set access standards that apply to all enrollees: travel time, waiting time, and the ratio of members to providers. Little of the state's quality monitoring had focused on disability issues, but care for children with asthma and adults with diabetes has been studied (Aizer and Gold 1999). The lack of a requirement for case management and the similarity of access standards and quality monitoring for SSI and other enrollees is typical of Medicaid managed care programs (Regenstein and Schroer 1998).

In some respects, TennCare is different from other states. First, TennCare is unusual in enrolling *all* SSI recipients in MCOs. Second, TennCare's low capitation payments, ambitious scope, rapid implementation, and grievance process have been sources of controversy (Blumstein and Sloan 2000; Hunt et al. 1999; Ku et al. 1998). We studied TennCare after the initial implementation problems subsided, but several TennCare MCOs subsequently experienced severe financial difficulties (Brown et al. 2001). TennCare's differences from other programs enrolling SSI recipients in managed care may affect the generalizability of our results.

Shelby County

To remove regional differences that would complicate comparisons among MCOs, we focus on Shelby County. In one health care market, all the MCOs should be subject to the same health care practice patterns, provider supply, public health infrastructure, and transportation systems. Some TennCare MCOs operated statewide, and others operated selectively across the state's

urban and rural regions. The two largest statewide MCOs varied their care management programs across regions, which would confound analyses using statewide data. For example, Blue Care used a regional case management system and implemented practice guidelines gradually across regions. Access MedPlus began its asthma management program in the western part of the state.

Shelby County has a large number of SSI enrollees and diverse MCOs. With approximately 23,000 SSI recipients, one-fifth of SSI recipients in Tennessee, the county has the largest concentration of SSI recipients, because Memphis is the state's largest city. About four-fifths of the SSI recipients in Shelby County are African American, reflecting the population in Shelby County and higher SSI receipt among this disadvantaged group. This concentration provided MCOs with a greater opportunity to develop specialized programs to serve the large number of people with disabilities in the County. Seven MCOs served TennCare enrollees in Shelby County at the time of our survey, but more than 90 percent of SSI enrollees were enrolled in the four largest MCOs.

Characteristics of Four MCOs

Descriptive data on the MCOs were collected during visits to Tennessee in 1995, 1996, and 1998. We subsequently interviewed MCO staff on the telephone to learn more about networks, financial incentives, and care management and to verify other MCO characteristics. In Table 1 we summarize the details collected and state hypotheses for each plan. The four MCOs' provider networks overlapped, they used similar methods to manage care, and they were all primarily network model MCOs, but they differed in their networks and financial incentives.

Networks. Blue Care, the second largest plan in Shelby County, had a broader provider network, especially of specialists, than the other plans, which may have enhanced enrollees' ability to find knowledgeable providers and their access to providers. TLC Family Health Care Plan (TLC) was sponsored by a group of university-affiliated physicians and the large safety net hospital in Memphis, and its university-affiliated physicians may have been more knowledgeable about care for people with disabilities. All four MCOs allowed specialists to serve as gatekeepers for at least some enrollees.

Financial Incentives. Unlike the other plans, Blue Care paid most providers on a fee-for-service basis, and primary care providers received bonuses based on access, availability, profitability, and other factors. The

Table 1: Managed Care Plan Characteristics and Hypotheses

	Access MedPlus	Blue Care	OmniCare Health Plan	TLC Family Health Care Plan
General Plan Characteristics				
HMO model		Mixed-model; network dominant ^a	Network	Mixed-model; network dominant ^b
Tax status of parent company	Network	Nonprofit	For-profit	Nonprofit
Years in operation	14	53	4.5	4.5
Has commercial products?	No	Yes	No	No
Provider-sponsored?	No	No	No	Yes ^c
Enrollment				
Statewide	301,190	548,942	45,694	51,969
Shelby County	102,083	40,359	37,984	37,984
SSI in Shelby County	6,251	3,692	2,769	4,615
SSI enrollment rate (Shelby County) ^d	34%	20%	15%	25%
Percent of Shelby County members who are SSI	6%	9%	7%	12%
Provider Network				
Percent of all TennCare enrollees with a safety net provider as primary care provider	More use of safety-net providers 25–75	Larger	Uncertain	More use of university and safety-net providers 25–75
Primary care providers per 1,000 enrollees in Shelby County	2.4	5.3 ^e	3.6	2.6
Specialists per 1,000 enrollees in Shelby County	1.4 ^f	14.7 ^e	5.4	3.7
Specialists can be gatekeepers for people with chronic conditions	Case-by-case basis	Yes	Yes	Yes

continued

Table 1: Continued

	Access MedPlus	Blue Care	OmniCare Health Plan	TLC Family Health Care Plan
Hypotheses				
Provider knowledge		More		More
Access to providers		More		
Financial Incentives for Providers				
Percent of TennCare enrollees whose primary care providers' compensation: Is capitated (rather than fee-for-service)	Capitation	Fee-for-service	Capitation	Mostly capitation
Depends on hospital use	100	1	100	65
Hypotheses	0	84	0	90
Access to providers		More		
Preventive care		More		
Access to hospital care		Less		Less
Case Management, Disease Management, and Treatment Protocols				
Case management program	Some	Some	None	Some
Treatment protocols for chronic conditions	Yes	Yes	No	Yes
Disease management programs ^g	Yes	Yes	No	Yes
	Asthma, diabetes, HIV/AIDS	Asthma, diabetes	None	Asthma, HIV/AIDS
Hypothesis: Care coordination			Less	
Utilization Review				
Prior authorization required for: Hospital stay	Some	Some	Some	Some
	Yes	Yes	Yes	Yes

Emergency room visit	No	Yes	No	No
Hypotheses				
Access to emergency room		Less		
Otherwise, similar access to services				

Sources: Interviews with MCO representatives, July through September 1998; Harkey's *Tennessee Managed Care* (1998 and 1999); and authors' calculations from TennCare enrollment files and Social Security Administration administrative data, April 1998 (excludes those also in Medicare).

Notes: Characteristics as of July 1998, except enrollment (April 1998) and physicians per 1,000 enrollees (January 1999). MCO = managed care organization; SSI = Supplemental Security Income.

^aBlue Care is 3 percent group-model, 93 percent network-model, and 4 percent independent practice association model.

^bTLC consists of network- and independent practice association models (breakdown not available).

^cSponsored by the University of Tennessee Medical Group and the Regional Medical Center.

^dRow does not total to 100 percent because some were enrolled in other, smaller MCOs.

^ePhysicians per 1,000 Blue Care enrollees is even higher (6.6 primary care providers and 33.4 specialists) when calculated using the larger networks for the commercial products and total TennCare and commercial enrollment.

^fProvider contracts per 1,000 TennCare enrollees in Shelby County.

^gMCOs reported additional programs were being developed or being pilot tested in particular clinics or regions.

financial incentives may have encouraged physicians to provide more preventive care, and the incentives may have created better access to providers. Most Blue Care and TLC providers had a financial incentive to reduce hospital use, which may have limited access to hospital care.

Utilization Management. Unlike the three other plans, OmniCare (the only for-profit plan in this study) lacked care management, treatment protocols, and disease management programs, and the lack of these programs may have impeded care coordination. In the three MCOs that operated case management programs, candidates for case management were predominantly identified after medical events occurred, so coordination of care may be limited in all MCOs. Access MedPlus focused on managing care for people with asthma and HIV/AIDS and a few high-cost cases. In late 1997, Access MedPlus began an asthma program, including clinical guidelines for physicians and 24 outreach workers who provided one-on-one member counseling and education. An Access MedPlus staff member helped enrollees with HIV/AIDS obtain needed services. Access MedPlus's utilization review system identified people for case management, but only about three hundred people (one in one thousand enrollees statewide) were in case management. Blue Care's programs were somewhat more extensive than those of the other three MCOs in the study. By the summer of 1998, Blue Care was using practice guidelines for three conditions and disease management programs for asthma and diabetes. Blue Care implemented guidelines and disease management programs for other conditions on a pilot basis or in at least one region or clinic. Blue Care's utilization review process identified cases for case management, including anyone with catastrophic diagnoses, such as brain injuries, HIV, or cerebral palsy.

All four plans used utilization review procedures, used the same formulary for prescription medications, and were just beginning or were resuming provider profiling. Hence, access to services, including specialists and prescription drugs, may be similar across MCOs. Blue Care, however, also required prior authorization for emergency room visits, which might have limited access to emergency room services.

TennCare Disability Survey

The TennCare Disability Survey collected information about enrollees' experiences with aspects of care that are pertinent to people with disabilities. The sample frame is the TennCare enrollment files, merged with Social Security Administration data to determine which TennCare enrollees also

received SSI and what their primary disabling condition was (physical or sensory, mental illness, or mental retardation). We restricted the sample to adults and children living in Shelby County. People who were aged 65 and older, dually eligible for Medicare and TennCare, resided in an institution, or were enrolled in a home- or community-based waiver program were excluded from the sample. We stratified the sample by MCO, age, and type of disabling condition to meet several analytical goals. All estimates take into account the complex sample design.

The survey was fielded by telephone between October 1998 and March 1999 and took, on average, 44 minutes to complete. The response rate was 65 percent and did not vary across MCOs (64 to 68 percent). Almost all the nonresponse was due to problems locating sample members (telephone contact information was provided only for those also receiving food stamps), rather than refusal to participate (the cooperation rate among those located was 96 percent). The resulting sample has 1,293 SSI enrollees in Shelby County.

The computer-assisted telephone survey was tailored to make it easier for adult SSI recipients to respond directly, rather than by proxy. Only 15 percent of adults required a proxy respondent, and parents answered for minor children (CyBulski and Ciemnecki 2000). Several analyses indicate the data are reliable (Ciemnecki et al. 2000).

Regression Analysis

We used regression analysis to compare access, preventive care, and care coordination across MCOs, controlling for differences in many enrollee characteristics: type of disabling condition, age, health status, chronic conditions, functioning, specific functional impairments that may limit access to care, attitudes toward care, demographics, education, and whether the interview was with a proxy respondent. Biased selection on unobserved characteristics is likely a minor issue, because the regressions control for a large number of enrollee characteristics (with 39 variables), but estimated differences among MCOs may have some bias.³ After deleting sample members with missing responses to the independent variables, the sample size was 1,155, with 222 to 351 enrollees per MCO. The percentage of observations lost due to item nonresponse was similar for each MCO (9 to 12 percent).

The regression technique used depends on the outcome measure. For continuous dependent variables, such as travel time to the physician, we

estimated linear regressions. We used logit regressions for binary measures, such as whether the sample member had a usual source of care, and ordered logit regressions for ordered measures, such as satisfaction ratings. For the number of visits, we used a negative binomial model. All the regressions include the same enrollee characteristics and three binary variables indicating the MCO in which the sample member was enrolled (one for each MCO except for the reference plan, Access MedPlus). We test whether each MCO coefficient is equal to the average of the other MCO coefficients, including an implied coefficient of zero for Access MedPlus. For a few hypotheses, we test whether two MCOs are different from the other two. Each regression-adjusted mean is the mean predicted measure, calculated as if each sample member used in the regression were enrolled in the MCO.⁴

RESULTS

Enrollee Characteristics

The SSI enrollees' characteristics were similar across MCOs in terms of disabling conditions, health status, chronic conditions, age, sex, and attitudes toward obtaining care (Table 2). There were differences across MCOs in enrollees' race.⁵

Summary of Regression Results

Regression-adjustment had almost no impact on the results, likely because enrollee characteristics are similar across MCOs. Health status and disabling conditions are the variables that most often have statistically significant coefficients in the regression models. Race, which does differ across MCOs, often has a statistically significant coefficient in the regressions, but the attitude variables seldom have statistically significant coefficients. The regression results are also not sensitive to which independent variables (and hence which observations, due to item nonresponse) are included in the regressions.

Provider Knowledge

Blue Care enrollees rated more highly their usual providers' knowledge about treating the disability, understanding of how the disability affects day-to-day life, and the information staff gave about managing their disability (Table 3). In contrast, TLC, with its network based on university-affiliated physicians and safety-net providers, was not associated with more knowledgeable providers. These findings (1) are consistent with enrollees in plans with larger networks

Table 2: SSI Enrollee Characteristics In Four MCOs

	Access MedPlus	Blue Care	OmniCare Health Plan	TLC Family Care Plan
Disabling Conditions and Health Status				
Type of disabling condition (percent)				
Mental retardation	27	29	26	22
Mental illness	41	36	41	41
Physical/sensory disabilities	22	25	24	28
Unknown type	10	10	9	9
Reported health status (percent) ^a				
Very good/excellent	30	25	25	28
Fair/poor	42	45	45	47
Percent with self-reported chronic conditions				
Asthma	15	20	20	18
Cancer	4	5	5	4
Diabetes	8	12	11	12
Heart Disease	10	15	12	12
Demographics (Percent)				
Child	30	26	32	35
Adult	70	74	68	65
Male	50	48	50	46
Female	50	52	50	54
Black	89*	70**	91**	92**
White or other	11	30	9	8
Attitudes^b (Percent)				
Worry about health more than other people ^c	30	29	31	36
Definitely true				

continued

Table 2: Continued

	Access MedPlus	Blue Care	OmniCare Health Plan	TLC Family Care Plan
Definitely false	26	22	20	22
Will do just about anything to avoid going to physician: definitely true ^d	19	19	20	18
Number of observations	387	338	251	317

Source: TennCare Disability Survey, Shelby County.

Notes: Statistical tests compare each plan with the average of the three other plans. MCO = managed care organization; SSI = Supplemental Security Income.

^a Good is the omitted category. Chi-square tests.

^b For children, race of mother, and attitudes of respondent.

^c Somewhat true, somewhat false, and do not know are the omitted categories.

^d Definitely false, somewhat false, somewhat true, and do not know are the omitted categories.

* Significantly different from other MCOs at the .05 level, two-tailed test.

** Significantly different from other MCOs at the .01 level, two-tailed test.

Table 3: Provider Networks, Financial Incentives, Provider Knowledge, Access to Providers, and Preventive Care

Network Characteristics	Access MedPlus	Blue Care	OmniCare Health Plan	TLC Family Care Plan
	More use of safety-net providers	Larger		More use of university and safety-net providers
Ratings of Usual Source of Care's Knowledge about Disability (Percent)^a				
How much provider knows about treating your disability				
Very good/excellent	45	50*	40	46
Fair/poor	22	19	26	22
How well provider understands the way disability affects day-to-day life				
Very good/excellent	41	52**	40	40
Fair/poor	21	15	22	20
How well staff gave you information needed to manage disability				
Very good/excellent	44	50*	43	43
Fair/poor	22	18	23	23
Number of observations	329	267	199	256
Financial Incentives for Providers	Capitation	Fee-for-service	Capitation	Mostly capitation
Access to Providers				
Percent with usual source of care	96	95	93	95
Number of observations	351	298	222	283
For those who visited a provider in the past year				

continued

Table 3: Continued

	Access MedPlus	Blue Care	OmniCare Health Plan	TLC Family Care Plan
Mean travel time to provider (minutes)	26	24	28	24
Percent who waited for an appointment less than one week or just walked in for care	90	91	89	89
Mean waiting time in the office (minutes)	48	49	49	51
Number of observations	304	267	197	249
Preventive Care				
Preventive visits in the past three months				
Percent who had a primary preventive care visit	34	35	40	35
Number of secondary preventive care visits (mean)	1.3	2.3**	1.1*	1.2
Number of observations	347	294	219	278
Percent of adults who had blood pressure checked in the past year	92	97*	94	93
Number of observations	210	206	138	164

Source: TennCare Disability Survey, Shelby County.

Notes: Regression-adjusted enrollee outcomes, controlling for health status, functioning, demographics, attitudes, and type of disabling condition. Statistical tests compare each plan with the average of the three other plans. For comparisons across plans with the same point estimates, variation in sample sizes across plans yields differences in significance levels. MCO = managed care organization.

^a Among those with a usual source of care. Good is the omitted category.

* Significantly different from other MCOs at the .05 level, two-tailed test.

** Significantly different from other MCOs at the .01 level, two-tailed test.

being better able to find knowledgeable providers, and (2) suggest that, among enrollees with disabilities, a plan's sponsorship by university-affiliated physicians is not sufficient to create greater satisfaction with providers' knowledge.

Access to Providers

By some measures, all four MCOs provided good access to providers, as nearly all enrollees had a usual source of care, could schedule appointments within one week of contacting their providers, and had average travel times to providers of less than 30 minutes (Table 3). These similarities across plans suggest that the combinations of network characteristics and financial incentives in the four plans were not sufficiently different to affect access to providers for this population. Alternatively, the similarities in access are consistent with the requirements in the contracts between TennCare and the MCOs, which suggests that state requirements may be more important than the plan characteristics measured.

Preventive Care

Blue Care enrollees received more preventive care. Nearly all adults had their blood pressure checked in the past year, and a small but significantly higher percentage of Blue Care's enrollees received this care. Enrollees in Blue Care reported more visits to manage their chronic conditions (secondary prevention) than did enrollees in other plans; OmniCare enrollees reported fewer secondary preventive visits. Blue Care's paying primary care providers on a fee-for-service basis may have encouraged them to provide more care. OmniCare enrollees' fewer secondary prevention visits, on the other hand, might be related to barriers reported by enrollees in the referral approval process, described below.

Coordination of Care

None of the MCOs provided much care coordination, even though three MCOs had care management programs, so we expected more coordination of their enrollees' care. In all MCOs, about one-quarter of enrollees had someone who coordinates or arranges care, but only one in seven reported that their MCO paid for this care (Table 4). Instead, most often a family member or friend coordinated care. About one in ten enrollees in all four MCOs reported that in the past year they needed but did not have someone to arrange or coordinate care. The similarity in experiences across MCOs may

Table 4: Utilization Management, Coordination of Care, and Access to Services

	Access MedPlus	Blue Care	Omnicare Health Plan	TLC Family Care Plan
Case Management, Disease Management, and Treatment Protocols	Some	Some	None	Some
Coordination of Services				
Percent who had someone who coordinated nonmedical services	22	23	26	22
Percent whose MCO paid for the help (n = 298) ^a	16	15	13	16
Percent with unmet need to arrange medical care, mental health care, personal care, or social services	9	9	13	11
Number of observations	350	296	221	282
Utilization Review	Some	Some	Some	Some
Access to Services				
Percent who had to wait for plan's approval for care	19	13**	23**	17
Among those who had to wait, percent whose waiting caused trouble (n = 299) ^a	71	75	79	74
Percent who reported their plan failed to refer to specialist, physical therapist, or speech therapist	5	3	10**	5
Rating of getting care from a specialist when you need it (percent) ^b				
Very good/excellent	40	45*	29**	39
Fair/poor	18	16	27	17
Don't know ^a	12	11	12	16
Rating of ease of getting care in an emergency (percent) ^b				
Very good/excellent	32	37*	31	33
Fair/poor	29	23	30	26
Don't know ^a	8	10	10	10

Rating of services for getting prescription drugs filled (percent) ^b				
Very good/excellent	52	51	50	46
Fair/poor	13	14	14	16
Percent who took less than recommended dosage or took prescription medication less frequently than recommended so medication would last longer	10*	13	18*	15
Reported unmet needs (percent)				
Prescription drugs	15	18	14	19
Special medical equipment	6	6	4	5
Hospital care	9	8	11	10
Percent with hospital stays in the past year ^c	15	17	17	15
Number of observations	351	298	222	283

Source: TennCare Disability Survey, Shelby County.

Notes: Regression-adjusted enrollee experiences, controlling for health status, functioning, demographics, attitudes, and type of disabling condition. Statistical tests compare each plan with the average of the three other plans. For comparisons across plans with the same point estimates, variation in sample sizes across plans yields differences in significance levels. MCO = managed care organization.

^a Not regression-adjusted due to small sample size.

^b Good is the omitted category.

^c Excludes psychiatric treatment.

* Significantly different from other MCOs at the .05 level, two-tailed test.

*** Significantly different from other MCOs at the .01 level, two-tailed test.

be because even the three MCOs with programs had reactive approaches to case management and disease management programs limited to a few conditions.

Access to Services

The variation in enrollee's access to services is not consistent with the hypotheses about utilization review. The plans reported using similar utilization review methods, but access to services varies for OmniCare and Blue Care enrollees. OmniCare enrollees were most likely to report that they had to wait for the plan's approval before obtaining care (23 percent), and that their plan failed to refer them to a specialist when they needed one (10 percent, Table 4). Blue Care enrollees were the least likely to report delays in receiving approval of care, and they gave higher ratings for access to specialists. Although inconsistent with the utilization review hypothesis, better access to specialists is consistent with more access to providers in Blue Care's larger network but may also reflect unmeasured financial incentives. Other enrollee reports were not consistent with specific hypotheses. Blue Care and TLC enrollees did not have more unmet needs for hospital care, nor less hospital use, even though providers in these plans had an incentive to reduce hospital use. Blue Care enrollees also gave higher ratings of access to emergency care, even though it was the only plan in the study that required prior authorization for emergency room visits. Some similarities do fit the hypotheses: the MCOs used identical formularies, and enrollees reported generally similar access to prescription medications on two of three measures, but patterns were not consistent across measures.

The differences in access to services among plans may be due to differences in utilization management programs not reported by the plans, rather than to measured plan characteristics. We did not, however, ask the plan how tightly services were managed, because of the possibilities of reporting bias and the intensity of resources required (interviewing plan managers and front-line employees about the details of the referral and approval process).

Summary

The results are consistent with some hypotheses about network size and provider payment, but evidence is not consistent with hypotheses about plans affiliated with medical schools and utilization management methods (Table 5).

Table 5: Summary of Hypotheses and Results

<i>Hypotheses</i>		
<i>MCO Characteristics</i>	<i>Expected Outcome</i>	<i>Are Results Consistent with the Hypothesis?</i>
Network		
Larger network	Blue Care enrollees had: More knowledgeable providers More access to providers	Yes Generally no, but more access to specialists
Affiliated with medical schools	TLC enrollees had more knowledgeable providers	No
Financial Incentives for Providers		
Fee-for-service (versus capitation)	Blue Care enrollees had: More access to providers Received more preventive care	No Yes
Physician pay depends on hospital use	Blue Care and TLC enrollees had less access to hospital care	No
Utilization Management		
No care management methods used	OmniCare enrollees' care was less coordinated	No
Required prior authorization for emergency room visits	Blue Care enrollees had less access to emergency services	No
Similar utilization review methods	Enrollees in all plans had similar access to other services	No

CONCLUSION

The results suggest that plan networks, financial incentives, utilization management methods, and state requirements are important areas for further research. Studies with more plans and larger samples can test whether using broad networks of providers, paying physicians primarily fee-for-service, or other factors are more important for access to knowledgeable providers. Studies with plans with more developed case and disease management programs, or studies focused on people with the conditions covered by these programs may reveal more about the effects of care management on people with disabilities. Studies using more states or payers may illuminate the role of contractual requirements with plans.

Until there are more studies of plan characteristics, ongoing monitoring of SSI enrollees in each MCO may be important for detecting problems and successes. In particular, enrollee reports on access to specialists, provider knowledge, and coordination of care may yield more useful information than detailed interviews with plan managers, front-line employees, and physicians. Ongoing monitoring through surveys has costs, but these costs may be offset by improvements in the well-being of people with disabilities.

ACKNOWLEDGMENTS

Two anonymous reviewers provided very helpful comments. We thank Anne Ciemnecki and Karen CyBulski for their innovative approaches to designing and implementing a telephone survey of SSI recipients; without them this paper would not exist. Craig Thornton played a key role in the design of the study.

NOTES

1. Persons also enrolled in Medicare had a separate, lower capitation rate and received primarily pharmacy benefits through their MCO. They are not included in this study, because the MCOs had little ability to manage their care.
2. We studied TennCare prior to July 2001, when, to better serve children with special health care needs, SSI children were enrolled in an MCO that was not capitated.
3. Models that control for biased selection on unobserved characteristics would rely on variables that predict which MCO an SSI enrollee chose but that do not affect access and quality in the MCO; such variables are difficult to imagine. Reschovsky, Kemper, and Tu (2000) similarly argue that biased selection on unobserved characteristics is unlikely to be a problem in comparisons among plans when there is a rich set of control variables.
4. A table with the MCOs' regression coefficients and standard errors is available from the authors.
5. A table with additional enrollee characteristics is available from the authors.

REFERENCES

- Aizer, A., and M. Gold. 1999. "Managed Care for Low-Income Populations with Special Needs: The Tennessee Experience." Washington, DC: Henry J. Kaiser Family Foundation.

- Blumstein, J. F., and F. A. Sloan. 2000. "Health Care Reform through Medicaid Managed Care: Tennessee (TennCare) as a Case Study and a Paradigm." *Vanderbilt Law Review* 53 (1): 125–270.
- Brown, R., J. Wooldridge, S. Hoag, and L. Moreno. 2001. "Reforming Medicaid: The Experiences of Five Pioneering States with Mandatory Managed Care and Eligibility Expansions." Princeton, NJ: Mathematica Policy Research, Inc.
- Ciemnecki, A. B., K. A. CyBulski, B. A. Kolln, A. M. Grady, S. C. Hill, and C. Thornton. 2000. "Interviewing Populations with Disabilities by Telephone: Data Quality Measures." Paper presented at the 2000 American Association for Public Opinion Research Conference. Portland, OR.
- Clement, D. G., S. M. Retchin, M. H. Stegall, and R. S. Brown. 1992. "Evaluation of Access and Satisfaction with Care in the TEFRA Program." Princeton, NJ: Mathematica Policy Research.
- Cummings, S. R., M. J. Stein, B. Hansen, R. J. Richard, B. Gerbert, and T. J. Coates. 1989. "Smoking Counseling and Preventive Medicine: A Survey of Internists in Private Practices and a Health Maintenance Organization." *Archives of Internal Medicine* 149 (2): 345–9.
- CyBulski, K. A., and A. B. Ciemnecki. 2000. "Interviewing Populations with Disabilities by Telephone: Survey Design and Operations." *American Statistical Association 2000 Proceedings of the Section on Survey Research Methods*. Alexandria, VA: American Statistical Association. pp. 1016–1021.
- Felt-Lisk, S., R. Dodge, and M. McHugh. 2001. "Trends in Health Plans Serving Medicaid—2000 Data Update." Washington, DC: Henry J. Kaiser Family Foundation.
- Gold, M., and A. Aizer. 2000. "Growing an Industry: How Managed Is TennCare's Managed Care?" *Health Affairs* 19 (1): 86–101.
- Gold, M., C. Thornton, P. Fox, and S. Retchin. 1998. "Serving Frail Elders in Medicare Managed Care." Princeton, NJ: Mathematica Policy Research.
- Harkey, J. B. 1998. *Tennessee Managed Care (The Harkey Report)*. Nashville, TN: Harkey and Associates.
- . 1999. *Tennessee Managed Care (The Harkey Report)*. Nashville, TN: Harkey and Associates.
- Hill, S. C., C. Thornton, C. Trenholm, and J. Wooldridge. 2002. "Risk Selection Among SSI Enrollees in TennCare." *Inquiry* 39 (2): 84–99.
- Hill, S. C., and J. Wooldridge. 2002. "SSI Enrollees' Health Care in TennCare." *Journal of Health Care for the Poor and Underserved*, in press.
- Himmelstein, D. U., S. Woolhandler, I. Hellander, and S. M. Wolfe. 1999. "Quality of Care in Investor-owned vs Not-for-profit HMOs." *Journal of the American Medical Association* 282 (2): 159–63.
- Hunt, S., M. Stachlin, L. Peters, and J. Stockard. 1999. "Actuarial Review of Capitation Rates in the TennCare Program." PriceWaterhouseCoopers.
- Ku, L., J. Wooldridge, S. Rajan, M. R. Ellwood, L. Dubay, T. A. Coughlin, S. D. Hoag, and S. Wall. 1998. "Medicaid Managed Care Programs in Hawaii, Oklahoma, Rhode Island, and Tennessee." In *Remaking Medicaid: Managed Care for the Public Good*, edited by S. M. Davidson and S. A. Somers. San Francisco: Jossey-Bass.

- Landon, B. E., A. M. Zaslavsky, N. D. Beaulieu, J. A. Shaul, and P. D. Cleary. 2001. "Health Plan Characteristics and Consumers' Assessments of Quality." *Health Affairs* 20 (2): 274-86.
- Master, R., T. Dreyfus, S. Connors, C. Tobias, Z. Zhou, and R. Kronick. 1996. "The Community Medical Alliance: An Integrated System of Care in Greater Boston for People with Severe Disability and AIDS." *Managed Care Quarterly* 4 (2): 26-37.
- McCall, N. 1989. "Evaluation of the Arizona Health Care Cost Containment System: Final Report." Menlo Park, CA: SRI International.
- Medicaid Working Group. 1995. Principles of Managed Care Delivery Systems for People with Disabilities. Paper presented at the conference on Serving People with Disabilities in Managed Care: State Experiences with Program Design and Implementation, Washington, DC.
- Moreno, L., S. D. Hoag, L. Foster, and C. Razafindrakoto. 2001. "HMO Characteristics and the Experiences of Medicaid Beneficiaries: An Analysis from Four States." Princeton, NJ: Mathematica Policy Research.
- National Academy for State Health Policy. 2001. *Medicaid Managed Care: A Guide for States*, 5th ed. Portland, ME: National Academy for State Health Policy.
- National Chronic Care Consortium. 1995. "Conceptualizing, Implementing, and Evaluating Extended Care Pathways." Bloomington, MN: National Chronic Care Consortium.
- Regenstein, M., and C. Schroer. 1998. "Medicaid Managed Care for People with Disabilities." Washington, DC: Henry J. Kaiser Family Foundation.
- Reschovsky, J. D., P. Kemper, and H. Tu. 2000. "Does Type of Health Insurance Affect Health Care Use and Assessments of Care among the Privately Insured?" *Health Services Research* 35 (1, part 2): 219-37.
- Safran, D. G., W. H. Rogers, A. R. Tarlov, T. Inui, D. A. Taira, J. E. Montgomery, J. E. Ware, and C. P. Slavin. 2000. "Organizational and Financial Characteristics of Health Plans: Are They Related to Primary Care Performance?" *Archives of Internal Medicine* 160 (1): 69-76.
- Smith, G., and J. Ashbaugh. 1995. *Managed Care for People with Developmental Disabilities: A Guidebook*. Alexandria, VA: National Association of State Directors of Developmental Disabilities Services.
- Tanenbaum, S. J., and R. E. Hurley. 1995. "Disability and the Managed Care Frenzy: A Cautionary Note." *Health Affairs* 14 (4): 213-9.