



ANALYSIS OF SELECTION EFFECTS IN NEW YORK CITY'S MEDICAID MANAGED CARE POPULATION PRIOR TO MANDATORY ENROLLMENT

JOHN BILLINGS, JD, TOD MIJANOVICH, MPA,
THOMAS FRENKEL, BA, MM, AND JOEL CANTOR, ScD

ABSTRACT It is becoming increasingly apparent that over the next several years the majority of Medicaid patients in many states will become enrolled in managed care plans, some voluntarily, but most as the result of mandatory initiatives. An important issue related to this development is the extent to which this movement to managed care is accompanied by serious selection effects, either across the board during the phase in or among individual plans or plan types with full-scale implementation. This paper examines selection effects in New York City between 1993 and 1997 during the voluntary enrollment period prior to implementation of mandatory enrollment pursuant to a Section 1115 waiver. No substantial selection bias was documented between patients entering managed care and those remaining in the fee-for-service system among the largest rate groups, although some selection effect was found among plans and plan types (with investor-owned plans enrolling patients with lower prior utilization and expenses).

INTRODUCTION

It is becoming increasingly apparent that, over the next several years, the majority of Medicaid patients in many states will become enrolled in managed care plans, some voluntarily, but most as the result of mandatory initiatives. Of course, this development, which is being implemented at the state and local levels, raises enormously important questions for vulnerable populations covered by Medicaid and the providers who traditionally have provided their care.¹ Will the plans have primary care practitioner capacity sufficient to ensure timely and effective

Dr. Billings, Mr. Mijanovich, and Mr. Frenkel are from the NYU Center for Health and Public Service Research; Dr. Cantor directs the Center for State Health Policy at Rutgers University.

Correspondence: Mr. John Billings, NYU Center for Health and Public Service Research, 726 Broadway, Fifth Floor, New York, NY 10003.

access to care? Do the plans have adequate management structure to administer this transition and to track utilization and quality of care among its contracted providers? Are the plans financially viable? Will patients be able to make informed choices in selection of plans? How will patients, who have historically utilized multiple providers, adapt to managed care restrictions on where they get care? Will Medicaid patients be drawn away from traditional safety net providers, undermining their financial viability and threatening their capacity to provide care to uninsured patients? Are the rates paid to plans adequate to cover needed care and to support the infrastructure necessary to manage care?

Another issue that has received less attention in this stampede to enroll Medicaid patients in managed care relates to selection bias.²⁻⁶ There are two levels of concern. First, in the short run during phased implementation, do managed care plans in general or some types of managed care plans get sicker/less-sick, more expensive/less-expensive patients than those remaining in the fee-for-service system? Answers to this question can have an obvious effect on plan viability (or create plan windfalls) during the critical ramp-up stage, as well as have an impact on total state/federal Medicaid expenditures if the residual fee-for-service patients cost more or less than expected. In states like Tennessee, where Medicaid patients were enrolled in managed care precipitously in large numbers, these issues are less important (although others are raised). But, in jurisdictions that phase in mandatory enrollment more deliberately, these problems are of greater consequence.

Second, in the longer run with full implementation of large-scale enrollment, if there are important differences in selection among plans or plan types, such conditions may create instability among plans if some experience systematic and substantial selection bias. Large differences among plans or plan types may also indicate potential inadequacy in definition of rate classes (i.e., too broad a range of utilization/expense differences among patients) that create additional problems as plans, in effect, are stimulated to engage in unhealthy efforts to obtain favorable selection by enrolling or not enrolling patients with certain characteristics.

In this study, we examine selection effects for Medicaid managed care between 1993 and 1997 in New York City. This was largely a period of suspended animation when a Section 1115 waiver authorizing mandatory enrollment for most Medicaid patients had been approved, but implementation had not yet been implemented as the terms and conditions for start-up of mandatory enrollment were defined further and "readiness" of state/local Medicaid agencies and of plans was assessed. The waiver as approved mandates managed care enrollment for most nonelderly Medicaid recipients, exempting or excluding populations

with special needs (those with acquired immunodeficiency syndrome/human immunodeficiency virus [AIDS/HIV], seriously and persistently mentally ill adults, seriously emotionally disturbed children, etc.).

During the study period, there was a burst of voluntary enrollment in managed care (probably in anticipation of expected mandatory enrollment as plans vied for market share) that peaked in 1995 with almost 500,000 patients enrolled in managed care plans (of about 1.6 million total Medicaid recipients). Enrollment then dropped off to about 380,000 as tighter restrictions on enrollment practices were implemented, and the timetable for mandatory enrollment became more uncertain (with some plans having enrollment frozen pending changes in enrollment practices and/or improvements in capacity of their primary care providers).

Mandatory enrollment actually began in August 1999, after the date of this study period. Accordingly, this study primarily addresses the short-term issues of selection effects prior to full managed care enrollment of all eligible Medicaid patients, but the findings also raise issues relevant to more mature stages of full implementation. During the study period, there were 26 plans participating in the program in New York City, including 12 provider-sponsored plans, 4 other not-for-profit plans, and 10 investor-owned plans.

The study focuses on two rate classification groups: females aged 6 months to 14 years receiving Aid to Dependent Children/Temporary Assistance for Needy Families (ADC/TANF) or home relief (HR) assistance and adults aged 21–64 years receiving ADC/TANF aid. These are two of the largest rate groups (representing about 50% of Medicaid recipients eligible for managed care); therefore, their use permits the most detailed subgroup analysis. Other rate groups, including ADC/TANF males aged 6 months to 17 years, Supplemental Security Income (SSI), and HR populations were also examined; these groups had comparable results, but these data are not presented in this study.

The goal of this study was to determine whether selection effects were observed among patients entering managed care and those remaining in the fee-for-service system, as well as to document any selection effects among plan types. Utilization patterns, extent of continuity of care, use rates, and expenses of patients in these rate groups who enrolled in managed care were compared with other patients not enrolling in managed care to assess any selection effects. Comparisons of prior utilization were also examined by individual plan and among plan types (provider-sponsored, other not-for-profit, and investor-owned) to evaluate any differences in selection effect among plans or plan types. These findings are discussed, and alternative approaches for policymakers for coping with selection bias are examined.

DATA SOURCES AND METHODS

Analyses were based on information from three data sets provided by the New York State Department of Health for October 1993 to September 1997 for Medicaid recipients residing in New York City: (1) eligibility files documenting periods of eligibility and eligibility classification (ADC, TANF, HR, SSI, noncash, etc.) for each Medicaid patient; (2) paid claims files, including an individual record for each fee-for-service payment for each patient (including inpatient, outpatient, ancillary, pharmacy, etc.); and (3) provider files identifying the individual or institution receiving payment. Eligibility and claims files included unique patient identifiers, allowing linking of records of individual patients, but these records were encrypted to prevent identification of any patient.

To ensure an adequate baseline, analyses were restricted to patients with at least 12 months of "continuous" eligibility. Patients with a break in eligibility of less than 3 months were deemed to be eligible continuously and were considered to have had no utilization during the break in eligibility. For managed care patients, analyses were limited to patients with at least 12 months of continuous eligibility prior to managed care enrollment (to ensure a sufficient period to establish utilization and expense experience prior to managed care enrollment). Managed care enrollment was documented by a paid monthly claim to a managed care plan. No data were available from these files on utilization of patients after enrollment in managed care, and analyses were restricted to fee-for-service utilization prior to enrollment.

Although individual patients had different lengths of eligibility during the study period, all utilization and expenses are expressed as annualized rates (per patient or per 1,000 patients). For managed care patients, these rates represent utilization or expenses prior to enrollment; for fee-for-service patients, it represents utilization of patients not entering managed care during a comparable time period.

By analyzing utilization and expenses by rate classification group, some levels of differences associated with severity and patient demographics are eliminated since these rate categories were established to group patients with comparable utilization levels. Some Medicaid patients are "exempted" from managed care, but can enroll voluntarily (e.g., those with AIDS/HIV, seriously and persistently mentally ill adults, or seriously emotionally disturbed children). Others are "excluded" and may not enroll (e.g., skilled nursing facility residents, intermediate care facility/mentally retarded residents, those with dual eligibility). Because the utilization and expenses of these patients differ dramatically from "mandatory" patients who must enroll, these "exempted/excluded" patients were analyzed

separately to isolate further possible differences associated with differences in need levels among patient subgroups.

Analysis of utilization patterns included assessment of "loyalty" of patients to a single provider. This determination of loyalty was based on primary care use only (excluding specialty care, emergency room care, pharmacy, inpatient care, etc.). Patients were considered loyal if they had three or more primary care visits during the study period, and all were to the same primary care provider. Patients were considered "predominantly" loyal if they had more than three primary care visits, and more than 50% were to the same primary care provider. Patients with three or more primary care visits, but 50% or less to a single primary care provider were categorized as "shoppers." Patients with one or two primary care visits during the study period were considered "occasional users" (having too few visits to establish loyalty), and patients with no primary care visits were categorized "nonusers."

The unit of analysis for identification of the primary care provider was the Medicaid provider identification number. Patients visiting different physicians within the same hospital outpatient department or community clinic (licensed as a Section 1122 facility) were considered to have visited the same "provider." Some hospitals and clinics have multiple sites or satellites that use the same provider identification number, and patients visiting these multiple sites/satellites within the same system were considered to have visited the same provider. Each physician in private or group practice has a unique provider identification number (even if multiple physicians practice at the same site), and loyalty required a visit to the same individual physician.

Fee-for-service expenses included in the analysis were limited to "covered" expenses that are included in Medicaid managed care rates. For example, excluded from analysis were obstetric expenses, dental expenses, school-based clinic services, and psychiatric inpatient expenses beyond 30 days and psychiatric outpatient services beginning with the 20th visit.

All utilization and expenses were based on the events and amounts as recorded in the paid claims files. Denied claims were not included in the database, and they were not incorporated in utilization rates or annualized expenses. The level of expenses reflects the amount paid, which may or may not be related to actual costs of services. Some expenses are at least quasi-cost based (inpatient stays and clinic visits), while others are based on long-established fee schedules (\$11 for a private/group practice physician visit) or other payment limits (hospital outpatient visits). Accordingly, these expenses reflect costs to the Medicaid agency and do not necessarily represent actual costs of services.

FINDINGS

**PATIENTS ENTERING MANAGED CARE COMPARED TO
THOSE REMAINING IN FEE-FOR-SERVICE SYSTEM**

For study patients, the patterns of utilization for patients entering managed care were comparable to those of patients who did not enter managed care. As displayed in Table I, the percentage of ADC/TANF/HR girls aged 6 months to 14 years who had three or more primary care visits with more than half to the same provider (loyal or predominantly loyal patients) was virtually identical for

TABLE I Comparison of Patient Loyalty to Primary Care Provider, Patients Entering Managed Care and Patients Not Entering Managed Care, 1993–1997

	N	Loyal or Predominantly Loyal	Shopper	Occasional User*	Non-Primary Care User
ADC/TANF/HR girls aged 6 months–14 years					
Mandatory patients					
Patients not entering MMC	132,247	58.7%	23.9%	9.5%	7.9%
Patients entering MMC	64,163	58.9%	18.8%	14.8%	7.6%
Ratio entering/not entering		1.003	0.787	1.557	0.954
Excludable/exemptable patients					
Patients not entering MMC	1,734	66.5%	25.8%	5.0%	2.8%
Patients entering MMC	407	65.6%	19.1%	11.4%	4.0%
Ratio entering/not entering		0.987	0.74	2.281	1.422
All patients					
Patients not entering MMC	133,981	58.8%	23.9%	9.4%	7.9%
Patients entering MMC	64,570	58.9%	18.8%	14.8%	7.6%
Ratio entering/not entering		1.002	0.786	1.564	0.959
ADC/TANF adults aged 21–64 years					
Mandatory patients					
Patients not entering MMC	147,875	45.3%	24.6%	15.2%	14.9%
Patients entering MMC	63,977	42.1%	19.9%	21.9%	16.1%
Ratio entering/not entering		0.929	0.811	1.437	1.081
Excludable/exemptable patients					
Patients not entering MMC	8,894	58.1%	31.4%	6.8%	3.6%
Patients entering MMC	2,385	52.9%	27.0%	13.7%	6.4%
Ratio entering/not entering		0.91	0.858	2.009	1.762
All patients					
Patients not entering MMC	156,769	46.0%	25.0%	14.8%	14.3%
Patients entering MMC	66,362	42.4%	20.2%	21.6%	15.8%
Ratio entering/not entering		0.923	0.809	1.463	1.105

Source: New York University Center for Health and Public Service Research (NYU CHPSR), United Hospital Fund (UHF), New York State–Department of Health (NYS-DOH).

*Occasional users had 2 or fewer primary care visits during the study period.

patients entering managed care (58.9%) to comparable patients not entering managed care (58.8%). This similar level of loyalty existed for both "mandatory" patients (patients who will be required to enter managed care on full implementation of the Section 1115 waiver) and patients who are "exempted" or "excluded" from the waiver requirements, but who voluntarily enroll. The overall level of loyalty for exempted/excluded patients was higher than for mandatory patients, perhaps reflecting their more serious levels of illness, which result in more stable provider relationships. A lower percentage of ADC/HR girls entering managed care were primary care shoppers (no primary care provider with more than 50% of the patient's primary care visits), perhaps reflecting a reluctance of the parents of these patients to accept the restrictions on choice inherent in managed care prior to mandatory enrollment. There were similar numbers of patients with no primary care use among managed care enrollees and those remaining in the fee-for-service system (7.6% of managed care patients vs. 7.9% of fee-for-service patients), although there were somewhat higher levels of occasional users (1–2 primary care visits during the study period) among patients entering managed care.

Similar patterns were observed for ADC/TANF adults aged 21–64 years. Comparable rates of loyalty and nonuse were observed for patients entering managed care and those remaining in the fee-for-service system. Again, there was a lower percentage of shoppers entering managed care (20.2% vs. 25.0%) and higher rates of occasional users (21.6% vs. 14.8%). Interestingly, overall there were lower rates of loyalty among adults and higher rates of non–primary care users compared with children, perhaps reflecting both lower primary care use rates and less-stable utilization patterns.

Analysis of utilization levels of hospital, emergency room, and primary care services revealed a more complex pattern. For mandatory patients (patients who will be required to enter managed care on implementation of the Section 1115 waiver), hospital and emergency room utilization rates for patients entering managed care (prior to entering managed care) actually were higher than for comparable patients remaining in the fee-for-service system (Table II). Rates of hospitalization were 17% higher for mandatory ADC/TANF/HR girls entering managed care and 18% higher for mandatory ADC/TANF adults entering managed care. Emergency room rates were 27% higher among girls and 31% higher for adults. Levels of primary care use were more comparable, with primary care visit rates about 2% lower for mandatory ADC/TANF/HR girls and 6% lower for ADC/TANF adults.

However, for exempted/excluded patients, hospital utilization levels for

TABLE II Comparison of Utilization Rates for Patients Entering Managed Care and Patients Not Entering Managed Care, 1993–1997

	Hospital Admissions Per 1,000*	Average Annual Primary Care Visits	Average Annual Emergency Department Visits
ADC/TANF/HR girls aged 6 months–14 years			
Mandatory patients			
Patients not entering MMC	47.5	4.51	0.56
Patients entering MMC	55.6	4.43	0.71
Ratio entering/not entering	1.17	0.982	1.269
Excludable/exemptable patients			
Patients not entering MMC	251.3	6.25	0.92
Patients entering MMC	143.8	5.34	0.99
Ratio entering/not entering	0.572	0.854	1.067
All patients			
Patients not entering MMC	50.2	4.54	0.56
Patients entering MMC	56.2	4.44	0.71
Ratio entering/not entering	1.119	0.978	1.262
ADC/TANF adults aged 21–64 years			
Mandatory patients			
Patients not entering MMC	93.4	3.48	0.51
Patients entering MMC	110.6	3.28	0.67
Ratio entering/not entering	1.184	0.944	1.313
Excludable/exemptable patients			
Patients not entering MMC	290.7	5.89	0.84
Patients entering MMC	294.8	5.18	1.08
Ratio entering/not entering	1.014	0.879	1.282
All patients			
Patients not entering MMC	104.5	3.61	0.53
Patients entering MMC	117.2	3.35	0.68
Ratio entering/not entering	1.121	0.927	1.294

Source: NYU CHPSR, UHF, NYS-DOH.

*Excludes obstetrics-related admissions.

ADC/TANF/HR girls prior to entering managed care were substantially lower (43% less) than those remaining in the fee-for-service system for girls and adults. Emergency room rates were comparable, but primary care visit rates for girls entering managed care were also 15% lower. For ADC/TANF adults, hospital utilization rates were comparable, but emergency room use was higher (28%) and primary care use rates lower (12%).

These utilization patterns and rates ultimately translate into expenses—the bottom line for potential selection bias. Two important findings emerged from an analysis comparing expenses of patients prior to entering managed care with those remaining in the fee-for-service system during the same period. First, total covered expenses for all patients (mandatory and exempted/excluded combined) entering managed care and fee-for-service patients are comparable for both ADC/TANF/HR girls and for ADC/TANF adults. The average annualized total expense was \$767 both for girls entering managed care and for those remaining in the fee-for-service system during the same time period. For adults, the average annualized expense for those entering managed care was \$1,258 compared with \$1,298 for those remaining in the fee-for-service system (3% less) (Table III). While some types of expenses differed (generally lower prior outpatient expenses and higher emergency room expenses for managed care patients), the comparability of total expenses suggests little or no selection bias during the study period.

The second important finding relates to the differences between mandatory and exempted/excluded patients. For mandatory patients, annualized covered expenses actually were somewhat higher among patients enrolling in managed care (6.3% for ADC/TANF/HR girls and 4.6% for ADC/TANF adults), but for exempted/excluded patients, expenses for managed care patients prior to enrollment were substantially lower than for patients remaining in the fee-for-service system (51% for girls and 21% for adults studied). The driving factor in these differences among exempted/excluded patients were hospital expenses, which were substantially higher for those patients remaining in the fee-for-service system. It is also critical to note the difference in average annualized expenses between mandatory and exempted/excluded patients, with the latter having annualized expenses three to seven times higher than those not required to enter managed care.

COMPARISONS AMONG PLAN TYPES

While no substantial selection effects were observed overall between patients entering managed care and those remaining in fee-for-service programs, there were substantial differences in selection among plan types. For ADC/TANF/HR girls aged 6 months to 14 years, total annualized covered expenses for patients enrolling in not-for-profit provider-sponsored plans were 26.4% higher than for patients enrolling in investor-owned plans and 33.3% higher than other not-for-profit plans (not provider-sponsored). Similar differences were observed for ADC/TANF adults aged 21–64 years, for which patients enrolling in provider-

TABLE III Comparison of "Covered Expenses" for Patients Entering Managed Care and Patients Not Entering Managed Care, 1993-1997

	Average Hospital Expense*	Average Outpatient Expense*	Average Emergency Department Expense	Average Other Expense*	Average Total Expense*
ADC/TANF/HR girls aged 6 months-14 years					
Mandatory patients					
Patients not entering MMC	\$296	\$345	\$68	\$3	\$711
Patients entering MMC	\$336	\$333	\$86	\$1	\$756
Ratio entering/not entering	1.138	0.965	1.258	0.476	1.063
Excludable/exemptable patients					
Patients not entering MMC	\$3,166	\$1,342	\$116	\$409	\$5,034
Patients entering MMC	\$1,140	\$1,167	\$120	\$31	\$2,458
Ratio entering/not entering	0.36	0.87	1.034	0.075	0.488
All patients					
Patients not entering MMC	\$333	\$358	\$69	\$8	\$767
Patients entering MMC	\$341	\$338	\$86	\$1	\$767
Ratio entering/not entering	1.026	0.945	1.25	0.185	1
ADC/TANF adults aged 21-64 years					
Mandatory patients					
Patients not entering MMC	\$608	\$403	\$63	\$58	\$1,133
Patients entering MMC	\$659	\$372	\$83	\$72	\$1,185
Ratio entering/not entering	1.082	0.922	1.31	1.238	1.046
Excludable/exemptable patients					
Patients not entering MMC	\$2,525	\$1,324	\$105	\$88	\$4,043
Patients entering MMC	\$1,958	\$1,046	\$133	\$72	\$3,210
Ratio entering/not entering	0.776	0.79	1.267	0.814	0.794
All patients					
Patients not entering MMC	\$717	\$455	\$66	\$60	\$1,298
Patients entering MMC	\$705	\$396	\$85	\$72	\$1,258
Ratio entering/not entering	0.983	0.869	1.29	1.202	0.969

Source: NYU CHPSR, UHF, NYS-DOH.

*Includes only "covered" expenses for services included in MMC capitation rates.

sponsored plans had average annualized expenses 34.3% higher than patients entering investor-owned plans and 17.5% higher than patients in other not-for-profit plans (Table IV).

There were also substantial differences in expenses among individual plans within plan types (see Figure). For example, expenses in the provider-sponsored plan with the highest expenses among patients prior to enrollment were 51.9% higher than the lowest expense plan for ADC/TANF adults. For investor-owned

TABLE IV Comparison of Average Annualized Expenses Among Medicaid Managed Care Plan Types, 1993–1997

	N*	Average Hospital Expense,† \$	Average Outpatient Expense,† \$	Average Emergency Department Expense, \$	Average Other Expense,† \$	Average Annual Expense,† \$
ADC/TANF/HR girls aged 6 months–14 years						
Mandatory patients						
Provider-sponsored plans	38,044	366	361	96	1	824
Other not-for-profit plans	5,968	272	266	83	1	622
Investor-owned plans	19,980	293	293	66	1	653
All plans	63,992	335	331	85	1	752
Excludable/exemptable patients						
Provider-sponsored plans	265	1,230	1,231	133	46	2,640
Other not-for-profit plans	33	537	1,185	94	0	1,817
Investor-owned plans	108	1,217	1,003	95	1	2,316
All plans	406	1,170	1,167	120	30	2,487
All patients						
Provider-sponsored plans	38,309	372	367	96	2	837
Other not-for-profit plans	6,001	273	271	83	1	629
Investor-owned plans	20,088	298	297	66	1	662
All plans	64,398	340	336	85	1	763
ADC/TANF adults aged 21–64 years						
Mandatory patients						
Provider-sponsored plans	35,521	727	418	90	77	1,312
Other not-for-profit plans	6,467	640	324	87	80	1,130
Investor-owned plans	21,809	544	304	69	60	977
All plans	63,797	656	369	83	71	1,179
Excludable/exemptable patients						
Provider-sponsored plans	1,470	2,020	1,124	141	72	3,356
Other not-for-profit plans	205	1,786	970	122	86	2,965
Investor-owned plans	703	1,826	875	118	69	2,888
All plans	2,378	1,943	1,037	133	72	3,184
All patients						
Provider-sponsored plans	36,991	779	446	92	77	1,393
Other not-for-profit plans	6,672	675	344	88	80	1,186
Investor-owned plans	22,512	584	322	71	60	1,037
All plans	66,175	702	393	84	71	1,251

Source: NYU CHPSR, UHF, NYS-DOH.

*Note: Totals differ from Table 1 because 359 had missing data for plan name.

†Includes only "covered" expenses for services included in MMC capitation rates.

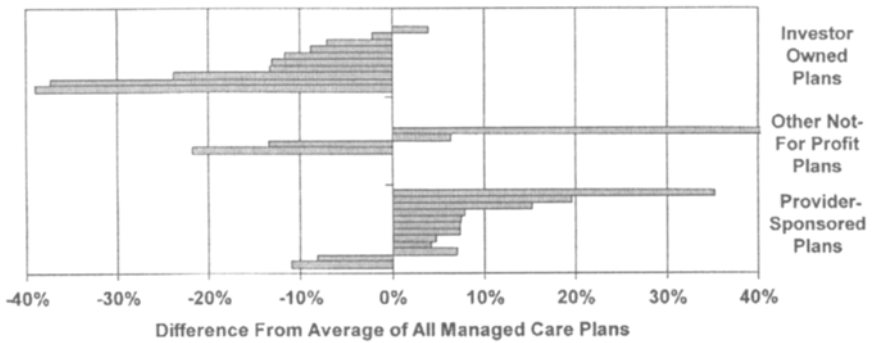


FIGURE Comparison of covered expenses by plan type: difference from average of all managed care plans, ADC/TANF adults aged 21–64 years, 1993–1997.

plans, the highest expense plan was 60.7% more than the lowest expense plan, and for other not-for-profit plans, the highest rate plan was more than 80% above the lowest expense plan.

Several factors appear to contribute to these selection differences among plan types. First, with a few important exceptions, provider-sponsored plans generally are sponsored or controlled by hospitals or hospital systems. Not surprisingly, they also tend to draw a higher percentage of their enrollees from patients who are loyal or predominantly loyal to hospitals or their satellites. For ADC/TANF/HR girls, 25.9% of patients enrolling in provider-sponsored managed care plans were loyal to a hospital outpatient department or hospital satellite prior to enrollment, compared to only 13.3% for investor-owned plans. For ADC/TANF adults, similar differences were observed (23.9% vs. 15.3%) (Table V).

In contrast, investor-owned plans had much higher rates on enrollment for patients loyal or predominantly loyal to private or group practice physicians than provider-sponsored plans (e.g., 37.6% vs. 23.2% for ADC/TANF/HR girls). Other not-for-profit plans tended to fall in the middle, drawing more patients loyal/predominantly loyal to hospitals than investor-owned plans, but fewer than provider-sponsored plans. They also drew more patients loyal to private/group practice physicians than provider-sponsored plans, but less than investor-owned plans.

These differences in where patients received care prior to enrollment had an important impact on expenses prior to enrollment. Patients loyal/predominantly loyal to hospitals had substantially higher annualized expenses for services covered by Medicaid managed care (Table VI). Patients potentially eligible for mandatory enrollment in managed care (not including exempted or excluded patients) who were loyal to hospital outpatient departments or their satellites had annual-

TABLE V Comparison of Patient Loyalty Among Medicaid Managed Care Plan Types, 1993–1997

	Predominantly Loyal and Loyal Patients			Not Predominantly Loyal or Loyal, %
	OPD or Satellite	Free- Standing Clinic	Private or Group Practice MD	
ADC/TANF/HR girls aged 6 months–14 years				
Patients not entering managed care	17.8	8.3	32.1	41.8
Patients entering managed care	21.0	9.3	28.2	41.6
Provider-sponsored plans	25.9	11.1	23.2	39.8
Other not-for-profit plans	15.5	8.0	29.0	47.6
Investor-owned plans	13.3	6.1	37.6	43.0
ADC/TANF adults aged 21–64 years				
Patients not entering managed care	22.4	7.1	15.9	54.5
Patients entering managed care	20.2	6.8	15.2	57.9
Provider-sponsored plans	23.9	8.5	13.6	54.0
Other not-for-profit plans	16.1	5.4	14.1	64.5
Investor-owned plans	15.3	4.3	18.2	62.2

Source: NYU CHPSR, UHF, NYS-DOH.

ized expenses 63.5% higher than the average for ADC/TANF/HR girls and 54.9% higher than for ADC/TANF adults. Smaller, but still substantial, differences in covered expenses were observed for exempted/excluded patients (36.9% for girls and 11.7% for adults).

Some of these differences reflect differential payment rates for care received under the fee-for-service system. Reimbursement for primary care in hospital outpatient department and free-standing clinic settings ranged from about \$70 to \$140 per visit, compared with \$11 for an office visit to a private/group practice physician. Patients loyal to hospital outpatient departments and free-standing clinics had comparable primary care visit rates (e.g., about 5 visits per year for girls aged 6 months to 14 years), although outpatient expenses were 72% higher (see Table VI). Accordingly, it is not surprising that provider-sponsored plans that draw more heavily from patients using hospital outpatient departments or satellites had higher average expenses among their patients prior to enrollment. Interestingly, the individual provider-sponsored plan with the lowest expenses for enrollees prior to enrollment was one of the few provider-sponsored plans not sponsored or controlled by hospitals or a hospital system.

However, almost 60% of the cost differences between patients receiving care in hospital outpatient departments relate to hospital and emergency room expenses,

TABLE VI Analysis of Average Annualized Covered Expenses Among Provider Types

	N	Average Hospital Expense,* \$	Average Outpatient Expense,* \$	Average Emergency Department Expense,* \$	Average Other Expense,* \$
ADC/TANF/HR girls aged 6 months–14 years					
Patients eligible for mandatory enrollment					
Hospital outpatient department/satellite	36,588	527	532	124	5
Free-standing clinic	16,778	318	548	80	1
Private/group MDs	60,750	215	261	55	1
Not predominantly loyal or loyal	82,294	266	241	60	2
All patients	196,410	309	341	74	2
Excluded/exempted patients					
Hospital outpatient department	828	4,047	1,473	149	552
Free-standing clinic	117	917	1,431	106	13
Private/group MDs	463	1,346	1,159	73	60
Not predominantly loyal or loyal	733	2,931	1,165	111	422
All patients	2,141	2,781	1,309	117	337
All patients					
Hospital outpatient department/satellite	37,416	605	553	124	17
Free-standing clinic	16,895	322	554	80	1
Private/group MDs	61,213	223	267	55	1
Not predominantly loyal or loyal	83,027	247	271	56	6
All patients	198,551	336	351	74	6
ADC/TANF adults aged 21–64 years					
Patients eligible for mandatory enrollment					
Hospital outpatient department/satellite	44,715	942	683	92	63
Free-standing clinic	13,948	541	644	64	69
Private/group MDs	33,674	446	238	54	53
Not predominantly loyal or loyal	119,515	526	254	60	60
All patients	211,852	624	394	69	62
Excluded/exempted patients					
Hospital outpatient department/satellite	3,824	2,526	1,568	123	83
Free-standing clinic	1,043	1,977	1,476	93	105
Private/group MDs	1,396	2,139	883	82	69
Not predominantly loyal or loyal	5,016	2,593	1,047	110	85
All patients	11,279	2,405	1,266	111	85
All patients					
Hospital outpatient department/satellite	48,539	1,067	753	95	64
Free-standing clinic	14,991	641	702	66	71
Private/group MDs	35,070	513	264	55	54
Not predominantly loyal or loyal	124,531	724	343	61	57
All patients	223,131	714	438	71	63

Source: NYU CHPSR, UHF, NYS-DOH.

*Includes only "covered" expenses for services included in MMC capitation rates.

indicating primary care reimbursement rates provide only a partial explanation. Hospital outpatient departments may attract sicker patients, but free-standing clinics and private/group practice physicians may also manage the care of their patients more effectively to reduce preventable/avoidable hospitalization and emergency department use, lowering use rates and expenses in these settings.

Moreover, there are also additional factors that contribute to differences in expenses prior to enrollment among plan types. One factor appears to be related to more potential selection bias for provider-sponsored plans. Even among patients loyal to a particular provider class, provider-sponsored plans tend to attract patients with higher expenses. For example, among ADC/TANF adults loyal or predominantly loyal to hospital outpatient departments or satellites, patients enrolling in provider-sponsored plans had expenses that were 20.3% higher than patients enrolling in investor-owned plans (Table VII). Similar differences were observed for patients loyal/predominantly loyal to free-standing clinics (17.4%) and to private/group physicians (11.0%). For patients not loyal or predominantly loyal to any provider, the difference was 31.8%. These differences among plan types that persisted even among the same provider types are likely due to illness levels or severity of patient illnesses, although further analysis would be required to confirm the impact of these factors.

A final element contributing to differences in expenses among plan types relates to the relative proportion of exempted/excluded patients to total plan enrollees. While exempted/excluded patients represent a relatively small share of Medicaid managed care enrollees, their annualized expenses are three to seven times higher than mandatory patients. Provider-sponsored plans tended to enroll a higher percentage of these patients than investor-owned plans (e.g., 4.0% vs. 3.1% for ADC/TANF adults), which also contributed to the overall higher expenses of patients entering these plans.

DISCUSSION

This analysis documents that, during the long, drawn-out period when New York State was preparing for implementation of the Section 1115 waiver for mandatory enrollment of Medicaid patients in managed care, there was not substantial selection bias between patients entering managed care and those remaining in the fee-for-service delivery system. Because of the large numbers of voluntary enrollees during this period, state/local government and plans themselves were at serious risk of possible selection bias. During some of this period, rates to plans were based at least partially on assumptions related to experience in the fee-for-service system, and had there been large-scale selection

TABLE VII Analysis of Average Annualized Covered Expenses Among Plan and Provider Types, MMC Rate Group: ADC/TANF Adults Aged 21–64 Years, 1993–1997

	Average Hospital Expense,* \$	Average Outpatient Expense,* \$	Average Emergency Department Expense,* \$	Average Other Expense,* \$	Average Annual Expense,* \$
Hospital outpatient department/satellite					
Provider-sponsored plans	1,041	733	119	69	1,960
Other not-for-profit plans	960	672	121	75	1,828
Investor-owned plans	830	638	108	53	1,628
All patients	980	703	116	65	1,864
Free-standing clinics					
Provider-sponsored plans	719	751	80	74	1,624
Other not-for-profit plans	735	664	90	94	1,583
Investor-owned plans	579	658	70	76	1,383
All patients	690	724	79	76	1,569
Private/group MDs					
Provider-sponsored plans	582	260	71	69	982
Other not-for-profit plans	447	261	69	67	844
Investor-owned plans	518	250	62	54	884
All patients	543	256	67	63	929
Not predominantly loyal or loyal					
Provider-sponsored plans	697	278	83	80	1,138
Other not-for-profit plans	626	223	79	79	1,007
Investor-owned plans	523	218	61	61	863
All patients	625	250	75	73	1,023
All patients					
Provider-sponsored plans	779	446	92	77	1,393
Other not-for-profit plans	675	344	88	80	1,186
Investor-owned plans	584	322	71	60	1,037
All patients	702	393	84	71	1,251

Source: NYU CHPSR, UHF, NYS-DOH.

*Includes only covered expenses for services included in MMC capitation rates.

bias in favor of the plans, the total Medicaid costs to state and local government for those in managed care and those remaining in the fee-for-service system might have exceeded the costs had all patients remained in the fee-for-service system.

While rates to plans were below the average expected fee-for-service costs, serious and substantial selection bias in favor of plans might have resulted in a net increase in costs to state and local governments. Had selection effects been substantially in favor of the Medicaid agency, the plans (already receiving rates set

at levels below historic fee-for-service levels) would have faced serious financial difficulties in meeting the expenses of enrolled patients.

Critics of Medicaid managed care have expressed profound concerns about potential behavior of plans in this new environment and the risks for abuse in many areas. Problems with aggressive and over-reaching behavior during the voluntary enrollment period and difficulties in ensuring that managed care patients could obtain timely appointments for urgent care problems seem to have supported these concerns.⁷ However, this absence of selection bias in favor of managed care plans suggests that at least one of the fears of critics of Medicaid managed care, that plans would "cherry-pick" less-sick patients, has not materialized as a general phenomenon.

However, differences in selection were observed among plan types. Investor-owned plans enrolled patients with substantially lower expenses prior to enrollment than provider-sponsored plans and other not-for-profit plans. A large portion of this difference in covered expenses is explained by where patients received care prior to enrollment, with investor-owned plans drawing more from patients loyal or predominantly loyal to lower expense private/group practice physicians and provider-sponsored plans attracting patients using hospital outpatient departments with historically higher expenses. However, even among patients loyal to a particular provider class, provider-sponsored plans tended to attract patients with higher expenses than investor-owned plans, suggesting at least some selection bias related to patient illness/severity levels.

Moreover, there were also substantial differences observed in expenses among plans within plan type. Plans with the highest annualized covered expenses prior to enrollment had expenses 50% to 80% higher than plans enrolling patients with the lowest expenses. The magnitude of these differences is large enough to warrant closer scrutiny to understand further the factors that contributed to these differences.

Many states have adopted "risk-adjusted" payment levels within rate classes to help account for differences in patient illness/severity levels.⁸ While methods for identifying and adjusting for differences in patient illness levels based on prior utilization remain challenging, risk-adjusting payment levels for individual patients can reduce some of the adverse or unfair impact of selection effects since payment levels for sicker patients are higher and those for less-sick patients lower. Some states (including New York) have also implemented approaches that pull out of the managed care rates certain procedures or care categories and reimburse these on a fee-for-service basis or as a "kick" payment to plans. Given the differences observed among plan types and among plans within plan types in

New York, consideration of developing risk-adjusted payments or other strategies would appear to have merit.

New York also has a feature of its rate class grouping that should be re-examined. While exempted/excluded patients are not required to enroll in managed care, some do in fact enroll. Despite the fact that the prior covered expense levels of these patients are three to seven times higher than for mandatory patients who are required to enroll, the payment level to the plans for exempted/excluded patients is the same as for mandatory patients within the rate group. While the overall rate structure for the class may reflect these higher expenses, some plans are much more likely to enroll these patients than others (especially provider-sponsored plans). Even without a sophisticated risk-adjusted payment system, a simple change in the rate classification groupings to account for these differences would seem advisable to avoid risks of negative selection among plans and plan types for these exempted/excluded patients who have substantially higher health care needs.

These data also have other implications for policymakers as many states continue to move toward enrollment of most Medicaid patients in managed care. Examination of the level of loyalty of patients to a single provider for primary care services among Medicaid patients reveals a fact that was suspected by most observers: Many Medicaid patients receive primary care from a variety of sources. Our findings indicate that only 45% of adult ADC/TANF patients receive all or most of their primary care from the same provider, and that 58% of ADC/TANF/HR girls are loyal or predominantly loyal to the same provider. Moreover, a substantial portion of these patients (about two-thirds) receive at least some of their care from more than one provider (predominantly loyal patients). Simply put, most Medicaid patients are to some extent shoppers for primary care (not even counting use of emergency rooms for primary care services).

Accordingly, as many states continue to move forward with managed care initiatives for Medicaid, most patients will be required to change their utilization behavior. Apart from concerns about whether patients actually will sign up for plans that include their current primary care provider, the majority of patients will be faced with a different problem: the requirement that they stop shopping and seek primary care from a single identified provider. This required change in patient behavior is fundamental and not likely to happen without considerable confusion and difficulty.

Of course, there are also important implications for providers. If the majority of patients shop for at least some of their primary care, that means that most patients whose medical records occupy space in a drawer of a filing cabinet of

a primary care provider are also seeing other primary care providers (and have medical records in the filing cabinet drawers in the offices of those providers). In a managed care world, therefore, providers are at substantial risk of losing many patients who they believe are "theirs." It is not surprising that many safety net providers, even apart from concerns about payment levels, tend to view Medicaid managed care with some level of alarm.

Finally, these data also illustrate the importance of the impact of providers of care on utilization and expense levels of their patients. Utilization levels of patients loyal or predominantly loyal to hospital outpatient departments and satellites are substantially higher than for the patients loyal to free-standing clinics and private/group physicians. Although not reported in this study, there are also enormous differences in utilization and expense levels among providers within these types. Clearly, as plans assemble their network of providers and Medicaid agencies begin to assess how plans are performing, learning more about the nature and causes of these differences is likely to be critical. Plans have tended to resist development of encounter databases to track utilization of managed care patients, but this study suggests that such databases will be essential if plans and state Medicaid agencies have any expectation of understanding and managing differences in utilization and expenses.

There are important limitations to this study that suggest some caution in interpretation of these findings. First, the analysis is limited to administrative data. Identifying differences in illness levels and severity using administrative data is difficult⁹; patient interviews and medical record review are required for a more complete understanding of differences in patient health status. However, much of the concern about selection bias ultimately relates to differences in "costs" among patients, whether due to illness levels or utilization patterns. These bottom-line differences are captured in our analysis of covered expenses. A second limitation relates to our reliance on paid claims: Patients may have utilized services for which payment was denied (or never submitted), and our analysis does not include this utilization or those expenses. Again, patient interviews and medical record reviews would be required to understand and quantify the impact of these factors.

A final limitation relates to patients we have not included in the study. To ensure a sufficient baseline number of patients for comparison, we limited our analysis to patients with at least 12 months of Medicaid fee-for-service eligibility prior to entry into managed care. To the extent that excluded patients were sicker or less sick than studied patients, our findings may not reflect full selection effects. To obtain an adequate understanding of the utilization history of these

patients, patient interviews would be required, although the limitations of patient recall and the absence of reliable cost estimates would make such a study difficult.

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