Comparison of Performance of Traditional Medicare vs Medicare Managed Care

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Context Since 2000, the Centers for Medicare & Medicaid Services (CMS) has been collecting information on beneficiaries' experiences with health care for Medicare managed care (MMC) and traditional fee-for-service (FFS) Medicare.

Objectives To compare beneficiary experiences with managed care and FFS arrangements throughout the country and to assess the stability of those differences over time.

Design, Setting, and Participants CMS administered managed care and FFS versions of the Consumer Assessment of Health Plans Study (CAHPS) survey to samples of beneficiaries (aged ≥65 years) from Medicare + Choice MMC organizations and from geographic strata within the traditional FFS Medicare program. We analyzed responses collected in 2000 and 2001 from 497 869 respondents: 299 058 beneficiaries enrolled in MMC plans (response rate, 82%) and 198 811 enrolled in FFS Medicare (response rate, 68%). Differences between MMC and FFS within states were assessed after adjustment for case mix and nonresponse. For estimates at the regional and national level, state estimates were combined after weighting by the MMC enrollment in the state.

Main Outcome Measures Four overall ratings (of the plan, personal physician, care received overall, and care received from specialists), 5 measures summarizing beneficiaries' experiences with care (getting care needed; getting care quickly; communication with clinicians; courtesy and respect of physician's office staff; and paperwork, information, and customer service), and reports of receipt of 3 preventive services (flu shots, pneumococcal vaccinations, and being advised to quit smoking) were assessed.

Results Respondents in MMC and FFS plans were similar to each other and to the Medicare population as a whole. Nationally, FFS Medicare beneficiaries rated experiences with care measured by the CAHPS survey higher than did MMC beneficiaries; for instance, in ratings of care received overall (scale of 1-10) (8.91 FFS vs 8.86 MMC, $P<.001$, in 2000; and 8.88 FFS vs 8.78 MMC, $P<.001$, in 2001). Differences between FFS and MMC varied across states, however. Managed care enrollees reported significantly fewer problems with paperwork, information, and customer service (2.62 FFS vs 2.55 MMC, $P<.001$, in 2000; and 2.59 FFS vs 2.51 MMC, $P<.001$, in 2001). Enrollees in MMC were also more likely to report having received immunizations for influenza and pneumococcus (from any source) (in 2000, 77% of MMC vs 63% of FFS respondents; $P<.001$), and smokers were more likely to report having received counseling to quit smoking.

Conclusions Our data suggest that managed care was better at delivering preventive services, whereas traditional Medicare was better in other aspects of care related to access and beneficiary experiences. These relative strengths should be considered when policy decisions are made that affect the availability of choice or influence beneficiaries to choose one model of care over another.

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The Medicare + Choice program stands at a critical juncture. Several years ago, Medicare managed care (MMC) was experiencing substantial growth, and many believed that the program would grow to encompass the majority of care for Medicare beneficiaries.[1,2] The Bush administration initially aimed to double enrollment in Medicare + Choice.[3] In recent years, however, new regulations and the Balanced Budget Amendment of 1997 reduced reimbursement rates for participating health plans, causing many to leave.[4-10] Enrollment in MMC has decreased from 6.8 million in 2000 to 5.2 million in 2003.[11] The largest cuts in reimbursement have been in areas of the country where managed care is more prevalent.

Because any Medicare beneficiary may enroll in traditional Medicare or purchase additional benefits through supplemental insurance, some features of managed care such as coverage for routine medical examinations or a prescription drug benefit must appear advantageous to individuals who enroll in Medicare + Choice. In return for these additional benefits, however, beneficiaries must now adhere to the rules of the health plan, which often include restrictions on access to care such as requirements for a referral to see a specialist. Managed care enrollees tend to be younger and healthier than individuals who choose to stay in traditional Medicare.[12,13] The costs and benefit provisions of plans are public information, but there are few recent published data about how patient experiences with MMC compare with those in traditional fee-for-service (FFS) Medicare.[14] Furthermore, most previous evaluations in this area are far more

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than a decade old and took place before growth in MMC when there was limited enrollment in a small number of health plans in a few regions of the country.[15-17]

Some have postulated that the increased benefits afforded to managed care enrollees and the care management practices of health plans would result in superior care, reflected in technical measures such as use of preventive services and in patient experiences with care. Others, however, argue that restrictions under managed care hinder access and lead to worse experiences with care, particularly for the elderly, many of whom have long-term medical conditions or cognitive or other impairments that make negotiating the health care system difficult.

The Consumer Assessment of Health Plans Study (CAHPS) survey[18] is used by many health plans, major employers, purchasing groups, and the Centers for Medicare & Medicaid Services (CMS). It recently became a component of the accreditation process for health plans administered by the National Committee for Quality Assurance and of its Health Plan Employers Data and Information Set.[19] CMS has used the MMC version of CAHPS to survey Medicare beneficiaries in managed care health plans annually since 1997[20-24] and in 2000 began surveying FFS beneficiaries. The data from these surveys provide a unique opportunity to compare beneficiary experiences with managed care and FFS arrangements throughout the country.

METHODS

MMC Sample

A "reporting unit" was defined as the entire enrollment of a Medicare + Choice contract or, for some contracts with large enrollments (usually more than 20 000), its enrollment in a subset of counties. For the 2000 and 2001 managed care surveys, CMS drew a random sample of 600 beneficiaries from each reporting unit of Medicare + Choice health plans that had continuing risk contracts in effect on July 1 of the relevant year and that had been in business for 2 years.[20,24] Cases sampled from contracts that had ceased activity or been terminated before the survey and beneficiaries who left their plan or otherwise became ineligible before the survey was administered were excluded.

FFS Sample

For the FFS survey, CMS drew a stratified random sample of approximately 600 FFS beneficiaries from each of 275 geographic sampling strata. These sampling strata are groups of counties, usually contiguous, within states (1 to 17 in each state) and were designed where possible to avoid crossing the boundaries of managed care contract service areas, metropolitan statistical areas (MSAs), and health service areas. The sampling strata contain approximately equal numbers of FFS beneficiaries (with undersampling of beneficiaries in 30 highly populous counties and oversampling of non-MSA counties in 12 states). Of the 275 areas, 205 also had MMC beneficiaries.

Survey Instrument and Methods

The survey instrument was based on the CAHPS 2.0 Adult Core Instrument, with additional items specific to the MMC and FFS versions of CAHPS.[24,25]

All sampled beneficiaries were mailed a prenotification letter, followed by a mailed survey approximately 1 week later. About a week after that, a thank you or reminder postcard was sent, and Spanish-language surveys were mailed to individuals requesting them. If a response was not received, a second survey was sent, and persons who did not respond to the first or second mailing were telephoned. Nonrespondents for whom no telephone number was available were sent another survey by express courier.[26] Informed consent was indicated by responding to the survey. All sampled beneficiaries were first sent a letter from the CMS privacy officer explaining the purpose of the survey and stating that participation was voluntary and would not affect their benefits. The letter also stated that the information would be held in confidence and protected by the Privacy Act. Information about the identities of the respondents was removed before the data were provided to the authors. The study was approved by the Harvard Medical School Committee on Human Subjects.

Analyses

Because few Medicare beneficiaries younger than 65 years are enrolled in managed care and because these patients differ from other Medicare beneficiaries in that they are disabled or have end-stage renal disease, we restricted our analyses to individuals aged 65 years or older. Analyses were conducted with SAS version 8.2 (SAS Institute Inc, Cary, NC).

Outcome Measures

Four of the questions elicit overall ratings (of the plan, personal physician, care received overall, and care received from specialists). In the FFS version of the survey, however, instead of being asked to rate their plan, respondents are asked to rate "Medicare." Because this question may not be strictly comparable to a plan rating, we do not emphasize this comparison. Another 34 questions elicit reports of respondent experiences. Other items define respondent characteristics for case mix and subgroup analyses or screen eligibility of respondents to answer specific items according to use or need for services. The 34 questions about respondents' experiences are summarized into 5 standard CAHPS scores: "getting care you need" (4 questions), "getting care quickly" (4 questions), "communication with providers" (4 questions), "courtesy and respect of physician's office staff" (2 questions), and "paperwork, information, and customer service" (3 questions). Also included are measures such as receiving a pneumococcal vaccination, getting a flu shot last year, and being advised to quit smoking. The questions did not include whether the services were received through a health plan or through Medicare. Because only current smokers are eligible for the smoking question, this limits sample sizes for comparisons at

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Box. Description of Measures Used in Analysis and in the Construction of Consumer Assessment of Health Plans Study Survey Scores

Ratings*

Plan
Care received overall
Personal physician
Specialist

Composite Scores

Getting needed care†
Easy to find a physician, easy to get a referral, get necessary care, delays for approval
Getting care quickly‡
Help through telephone at physician's office, routine appointment, appointment for illness, wait more than 15 minutes
Physician communicates well‡
Physician listens carefully, explains things, shows respect, spends enough time
Courtesy and respect of the physician's office‡
Office staff treat with courtesy and respect, office staff helpful
Paperwork, information, and customer service‡
Find and understand written information, help through telephone at plan's customer service, paperwork problems

Prevention§

Received flu shot last year
Pneumococcal vaccination
Smoking advice (to quit)

*On a 0-10 numeric scale.
†On a "not a problem/small problem/big problem" scale, coded as 1-3.
‡On a "never/sometimes/usually/always" scale, coded as 1-4. All items were recoded so that higher scores represent better care experiences.
§On a yes/no scale.

the health plan level. These measures are summarized in the BOX.

Case-Mix Adjustment

State means were case-mix adjusted to remove the effects of different distributions of member characteristics between MMC and FFS by using separate coefficients in the 2 subgroups to adjust to the mean of the 2 groups. The adjuster variables were age, self-reported health status, education, and proxy response, as well as interactions of age and education with region. These variables were selected after analyses of a wide range of sociodemographic characteristics and health status variables[26] because they were found to be significant predictors of scores and because they were found to vary across health plans and between managed care and FFS. The self-reported health status question in the 2001 version of the FFS survey appeared directly after a question about mental health that did not appear at that point in any of the other surveys, and this might have affected responses. Hence, we used mean health status measures from the 2000 survey in the same reporting units, anticipating that such measures would remain fairly constant during short periods.

State-Level Comparisons

Weights were developed to compensate for different response by different subgroups of beneficiaries and for the unequal geographic distribution of MMC and FFS respondents within states. We first calculated managed care sampling weights that were the inverse probability of selection in each stratum and the effective sample size for estimation of the managed care mean within each county. Similarly, we calculated the effective sample size for estimation of the FFS mean in each county, taking into account the sampling and nonresponse weights for the FFS sample. We then calculated "matching weights" for FFS and MMC in each county so that each county had the same total weight for MMC and FFS while maximizing the efficiency of the statewide FFS-MMC comparison. Thus, counties with no managed care enrollment had no impact on the comparisons. Differences between MMC and FFS within states were assessed with weighted *t* tests.

Regional and National Comparisons

For estimates at the regional and national level, state estimates were combined after weighting by the MMC enrollment in the state. Thus, these estimates allow for comparisons between MMC and traditional FFS Medicare that reflect the areas of the country where both programs are available. In national comparisons, states were treated as clusters in weighted *t* tests as a stringent test of patterns that reached across states. CAHPS contains numerous measures and scores, some of which for managed care have been found to be influenced primarily by provider behavior and others primarily by the plan.[20-22] We present aggregate data for all of the measures and detailed data by state and region for 2 outcomes that represent different aspects of quality.[20,21] These measures are receipt of the flu shot, representing care management and technical quality, and the rating of care received overall, reflecting access and interpersonal aspects of care that might be affected by management practices.

RESULTS

We analyzed responses collected in 2000 and 2001 from almost 500 000 Medicare beneficiaries aged 65 years or older, including 299 058 enrolled in MMC plans (response rate, 82%) and 198 811

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enrolled in traditional FFS Medicare (response rate, 68%)(TABLE 1).

Characteristics of the Respondents

With few exceptions, MMC and FFS respondents were similar to each other and to the Medicare population as a whole (Table 1). More than half the respondents were aged 65 to 74 years, 57.6% were women, and the vast majority were white (91%). All regions of the country were represented. More FFS enrollees had some college education (41.8% in 2000 and 43.4% in 2001) than did MMC enrollees (30.9% in 2000 and 32.4% in 2001). Approximately 30% of respondents rated their health status as very good or excellent, which was similar for MMC and FFS respondents (but 40.4% for FFS in 2001).

Summary Comparisons of MMC and Medicare FFS

National estimates of CAHPS scores are presented in TABLE 2; these estimates control for case-mix differences and weight state results according to MMC population. Findings were generally consistent from 2000 to 2001 for the 12 measures: 4 ratings and 4 scores related to experiences with care, 1 score related to customer service, and 3 items related to prevention.

Experiences With Care

Nationally, FFS Medicare was rated higher than MMC on each of the global ratings. For instance, FFS enrollees rated the overall care they received from Medicare more highly than MMC enrollees rated their care (8.91 on a scale of 0-10 vs 8.86, $P<.001$, in 2000; and 8.88 vs 8.78, $P<.001$, in 2001). In addition, FFS beneficiaries rated their personal physicians higher than did MMC beneficiaries (8.88 vs 8.76 in 2000, $P<.001$; and 8.80 vs 8.70, $P<.001$, in 2001). There was, however, variability in these ratings across states. For instance, in 2000, FFS respondents from 16 states rated their physicians higher than did MMC respondents in the same states, but in 3 states MMC respondents rated their physicians higher. Similarly, FFS respondents reported fewer problems with getting needed care in both years nationally (composite score of 2.84 on a scale of 1-4 vs 2.82, $P<.001$, in 2000; and 2.87 vs 2.78, $P<.001$, in 2001) and in most states (36) in 2001. There were only small differences in reports on getting care quickly and on services at the physician's office, but significant variation existed across states on all of these measures, with MMC and FFS each significantly higher in some states. The F tests for the significance of the differences across states were highly significant ($P<.01$) for all measures in both years.

Customer Service

Managed care enrollees reported significantly fewer problems with paperwork, information, and customer service (2.62 vs 2.55, $P<.001$, in 2000; and 2.59 vs 2.51, $P<.001$, in 2001). In 2001, MMC respondents reported fewer problems in 30 of the 44 states with MMC.

Preventive Care

Managed care enrollees were more likely to report having received immunizations for influenza and pneumococcus and, if smokers, were more likely to report having received counseling to

Table 1. Respondent Characteristics*

Category	2000 MMC Survey	2000 FFS Survey	2000 July Medicare Population	2001 MMC Survey	2001 FFS Survey	2001 July Medicare Population
Respondents, No.	164 052	92 706		135 006	106 105	
Female, %	57.6	57.6	57.1	57.5	57.2	56.6
Age, y, %						
65-74	57.7	50.0	47.8	55.6	52.0	44.4
75-84	34.5	39.0	29.7	36.0	37.5	30.7
≥85	7.8	11.0	10.3	8.2	10.5	11.0
Race, %						
White	91.2	90.9	86.4	90.8	90.6	85.0
Black	6.9	5.7	9.0	6.9	6.1	9.5
Other/unknown	3.0	3.5	4.6	3.3	3.3	5.5
Hispanic†	4.6	2.6	. . .	4.4	2.5	. . .
Region, %						
1, Northeast	7.9	7.8	5.5	7.8	7.6	5.5
2, North Mid-Atlantic	12.4	12.3	10.1	12.7	12.7	10.1
3, Mid-Atlantic	13.6	13.7	10.7	11.2	11.3	10.7
4, South Atlantic	14.7	15.1	20.6	14.7	15.1	20.7
5, East Midwest	19.0	19.1	18.1	19.3	19.4	18.1
6, Southwest	9.6	9.5	10.5	7.8	7.7	10.5
7, Midwest	4.8	4.8	5.1	4.8	4.8	5.0
8, Mountain	2.6	2.5	2.8	3.5	3.4	2.7
9, Pacific	10.1	10.0	12.9	12.3	12.2	13.1
10, Northwest	5.4	5.3	3.7	5.9	5.8	3.7
Some college education, %†	30.9	41.8	. . .	32.4	43.4	. . .
General health status, %†						
Excellent	7.8	7.7	. . .	7.2	10.0	. . .
Very good	24.8	25.7	. . .	24.8	30.4	. . .
Good	39.3	36.6	. . .	39.8	36.0	. . .
Fair	23.4	24.2	. . .	23.3	19.2	. . .
Poor	4.8	5.9	. . .	4.9	4.4	. . .
Proxy used, %†	13.1	14.6	. . .	10.4	12.9	. . .

Abbreviations: FFS, fee-for-service; MMC, Medicare managed care.
*Ellipses indicate information not available. Source of July Medicare populations for 2000 and 2001, Centers for Medicare and Medicaid Services.
†Information available only for survey respondents. For 2001, this distribution reflects different placement of this question on the survey. See the "Methods" section in the text. Race may not total to 100% because Hispanic may be white or black.

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quit smoking. For instance, 77% of managed care enrollees reported receiving the vaccination for pneumococcus in 2000 as opposed to 63% of FFS respondents ($P<.001$; the numbers for 2001 were 70% vs 64%, $P<.001$). These findings were consistent across states: managed care enrollees were more likely to receive this vaccination in 43 states in 2000 and 34 states in 2001, whereas in no states were FFS enrollees more likely to receive this vaccination. Across all 3 measures, FFS beneficiaries were more likely to receive a preventive service in only 1 instance (flu shots in 1 state in 2001).

Variability Across States and Regions

State-by-state and regional comparisons for overall ratings of care and the flu-shot measure for 2001 show substantial variability across states, even within region (TABLE 3). For instance, FFS beneficiaries in Washington, DC, rated their care 9.00 compared with 8.41 for managed care enrollees ($P<.001$), whereas West Virginia FFS enrollees rated their overall care 8.98 compared with 9.20 for managed care enrollees ($P<.001$). However, the differences in each state tended to be fairly stable over time. Of 24 states where there was a significant difference in one year, the difference in the other year was in the same direction in 21 states. The proportion of FFS patients who reported receiving a flu shot was lower than the managed care proportion in most states, with differences ranging up to a 12% in favor of managed care.

COMMENT

This is the first article that we are aware of directly comparing the experiences of FFS and MMC beneficiaries over time throughout the entire country by using a common standardized instrument. The results have important policy implications because a variety of options are being debated for either expanding or deemphasizing the Medicare + Choice program.

This national longitudinal assessment has several notable findings. First, FFS Medicare beneficiaries generally rated their care and physicians higher and reported fewer problems obtaining needed care than did MMC enrollees. In contrast, MMC enrollees reported receiving recommended preventive services such as flu shots and smoking cessation counseling more frequently and reported fewer problems related to paperwork and information. Second, differences in care experiences between FFS Medicare and MMC vary across regions of the country and states within regions, suggesting that consumer experiences are affected by particular characteristics of the organization and norms of care in different areas, which is consistent with previous findings[22] that much of the variation in reported quality of managed care is geographic rather than specific to plans. Differences in the receipt of preventive services, however, more consistently favored managed care. Finally, these results suggest that differences between MMC and traditional Medicare were fairly consistent over time.

Our findings related to prevention confirm previous findings of differences

Table 2. National Summary of CAHPS Ratings, Scores, and Preventive Services*

	2000†						2001‡					
Measure	FFS Mean	MMC Mean	FFS–MMC Mean Difference	*P* Value	MMC Better, No. of States	FFS Better, No. of States	FFS Mean	MMC Mean	FFS–MMC Mean Difference	*P* Value	MMC Better, No. of States	FFS Better, No. of States
Experiences with care												
Rating of plan	8.72	8.49	0.23	<.001	5	24	8.62	8.45	0.17	<.001	10	19
Rating of care received overall	8.91	8.86	0.05	.01	8	11	8.88	8.78	0.10	<.001	5	10
Rating of physician	8.88	8.76	0.12	<.001	3	16	8.80	8.70	0.11	<.001	7	13
Rating of specialist	8.90	8.79	0.11	<.001	3	10	8.79	8.71	0.08	.003	7	7
Physicians who communicate well composite	3.60	3.61	(0.01)	.07	5	18	3.60	3.59	0.01	.28	12	6
Getting needed care composite	2.84	2.82	0.02	<.001	12	10	2.87	2.78	0.09	<.001	1	36
Getting care quickly composite	3.44	3.44	0.00	.50	11	5	3.43	3.43	0.00	.60	22	6
Courtesy and respect of physician's staff	3.75	3.76	(0.01)	.03	10	4	3.74	3.74	0.00	.91	11	3
Customer service												
Paperwork and information composite	2.55	2.62	(0.07)	<.001	19	4	2.51	2.59	(0.08)	<.001	30	2
Preventive services												
Flu shot	0.73	0.77	(0.04)	<.001	28	0	0.70	0.73	(0.03)	<.001	24	1
Pneumococcal immunization	0.63	0.77	(0.14)	<.001	43	0	0.64	0.70	(0.06)	<.001	34	0
Advised to quit smoking§	0.44	0.58	(0.14)	<.001	32	0	0.54	0.59	(0.05)	<.001	8	0

Abbreviations: CAHPS, Consumer Assessment of Health Plans Study; FFS, fee for service; MMC, Medicare managed care.
*Parentheses indicate MMC is better than FFS. Mean difference may not appear exact due to rounding.
†Number of states = 43.
‡Number of states = 44.
§Relevant sample sizes for this question were 24 261 in 2000 and 20 606 in 2001.

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Table 3. State-by-State and Regional Comparisons for Rating of Care and Flu Shot in 2001*

	Overall Rating of Health Care Patients Received				Received Flu Shot Last Year			
Area	FFS	MMC	FFS–MMC	*P* Value	FFS	MMC	FFS–MMC	*P* Value
National	8.88	8.78	0.10	<.001	0.70	0.73	(0.04)	<.001
Region 1, New England	9.02	9.02	0.01	.82	0.71	0.77	(0.06)	<.001
CT	9.02	9.02	(0.00)	.97	0.72	0.74	(0.02)	.16
MA	9.04	9.01	0.03	.58	0.70	0.77	(0.07)	<.001
NH	9.00	8.95	0.05	.62	0.74	0.79	(0.05)	.03
RI	9.01	9.07	(0.06)	.56	0.71	0.80	(0.09)	.001
Region 2, NY/NJ	8.86	8.87	(0.01)	.71	0.67	0.72	(0.05)	<.001
NJ	8.91	8.84	0.07	.09	0.65	0.73	(0.08)	<.001
NY	8.84	8.89	(0.05)	.07	0.69	0.70	(0.02)	.06
Region 3, Mid-Atlantic	9.00	8.95	0.05	.01	0.69	0.76	(0.07)	<.001
DC	9.00	8.41	0.59	<.001	0.63	0.66	(0.03)	.36
DE	8.95	9.08	(0.13)	.12	0.73	0.80	(0.07)	.002
MD	8.88	8.58	0.30	.003	0.70	0.81	(0.11)	<.001
PA	9.04	9.06	(0.02)	.48	0.69	0.74	(0.06)	<.001
VA	8.85	8.57	0.28	<.001	0.75	0.81	(0.06)	.002
WV	8.98	9.20	(0.22)	<.001	0.69	0.81	(0.12)	<.001
Region 4, Southeast	8.88	8.72	0.16	<.001	0.67	0.68	(0.01)	.06
AL	8.99	9.06	(0.07)	.26	0.68	0.69	(0.01)	.42
FL	8.86	8.59	0.27	<.001	0.65	0.66	(0.01)	.05
GA	8.74	8.70	0.04	.60	0.68	0.71	(0.03)	.06
KY	8.98	8.68	0.30	<.001	0.72	0.65	0.07	.001
MS	8.94	8.79	0.15	.21	0.72	0.55	0.17	<.001
NC	8.90	8.99	(0.09)	.12	0.70	0.76	(0.06)	<.001
TN	8.90	9.02	(0.12)	.04	0.72	0.74	(0.01)	.36
Region 5, Upper Midwest	8.95	8.96	(0.01)	.36	0.69	0.73	(0.04)	<.001
IL	8.93	8.85	0.08	.06	0.67	0.70	(0.03)	.02
IN	9.02	9.02	0.01	.88	0.68	0.73	(0.05)	.001
MI	9.04	8.96	0.08	.07	0.66	0.68	(0.02)	.13
MN	8.87	8.96	(0.08)	.08	0.77	0.86	(0.09)	<.001
OH	8.94	8.96	(0.03)	.40	0.69	0.72	(0.03)	.001
WI	8.91	9.04	(0.13)	.003	0.72	0.75	(0.03)	.01
Region 6, South	8.88	8.74	0.14	<.001	0.71	0.73	(0.02)	.009
AR	9.10	9.02	0.08	.31	0.74	0.75	(0.01)	.66
LA	9.02	9.03	(0.01)	.84	0.65	0.72	(0.08)	<.001
NM	8.61	8.69	(0.08)	.35	0.77	0.77	0.00	.91
OK	8.83	8.66	0.17	.02	0.75	0.78	(0.03)	.05
TX	8.86	8.64	0.22	<.001	0.71	0.70	0.00	.65
Region 7, Midwest	8.92	8.90	0.02	.45	0.74	0.78	(0.05)	<.001
IA	8.90	9.17	(0.26)	<.001	0.76	0.81	(0.05)	.002
KS	8.93	8.90	0.03	.64	0.79	0.76	0.03	.10
MO	8.94	8.76	0.18	<.001	0.70	0.78	(0.08)	<.001
NE	8.94	8.94	0.00	.99	0.77	0.79	(0.01)	.56
Region 8, Mountain	8.79	8.91	(0.11)	.01	0.75	0.81	(0.06)	<.001
CO	8.67	8.72	(0.04)	.49	0.77	0.82	(0.05)	.003
ND	8.96	9.04	(0.08)	.43	0.71	0.76	(0.04)	.09
SD	9.01	9.30	(0.29)	.003	0.74	0.82	(0.09)	.002
Region 9, Southwest/Pacific	8.83	8.64	0.19	<.001	0.70	0.74	(0.04)	<.001
AZ	8.57	8.57	0.00	.96	0.69	0.68	0.01	.42
CA	8.86	8.62	0.24	<.001	0.71	0.76	(0.05)	<.001
HI	9.05	9.08	(0.02)	.77	0.77	0.80	(0.03)	.18
NV	8.80	8.46	0.34	<.001	0.58	0.64	(0.06)	.005
Region 10, Northwest	8.82	8.89	(0.07)	.02	0.73	0.78	(0.06)	<.001
ID	8.89	9.07	(0.17)	.04	0.67	0.76	(0.09)	<.001
OR	8.81	8.87	(0.07)	.25	0.75	0.77	(0.02)	.12
WA	8.81	8.85	(0.04)	.36	0.73	0.79	(0.06)	<.001

Abbreviations: FFS, fee for service; MMC, Medicare managed care.
*Overall rating of health care based on 0-10 scale; received flu shot yes/no. Adjusted according to 2000 responses. Parentheses indicate MMC is better than FFS. Mean differences may not appear exact due to rounding.

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between organized managed care delivery systems and loosely managed FFS systems.[27-31] Managed care plans are oriented toward providing comprehensive preventive services to improve the health of populations and to prevent the onset of potentially serious illnesses. Consequently, it is not surprising that MMC respondents were more likely to have received preventive services, even if these services were not always delivered by the health plan. Many managed care plans encourage flu shots by methods including targeted mailings to patients or physicians, educational campaigns, or direct financial incentives (eg, extra payments) to physicians.[27] Public reporting of flu-shot rates for managed care plans as part of the Health Plan Employer Data and Information Set provides an incentive for plans to undertake such programs (Quality Compass, National Committee for Quality Assurance, Washington, DC).[32] Similar rates have generally not been regularly reported for non–managed care settings, and even if they were, there is no structure of accountability for individual FFS providers.[33] Finally, preventive medical visits are generally covered under managed care but are not for traditional Medicare (although flu shots and some other preventive services such as colonoscopy are paid for). Although MMC and FFS beneficiaries frequently obtain immunizations in other settings not attributable to their type of Medicare coverage, this shared source should not explain the observed differences.

Conversely, MMC respondents reported more problems getting needed care and rated their care lower. These findings are consistent with numerous smaller studies, mostly in the non-Medicare population.[14,29,30] Managed Medicare plans agree to provide services to Medicare beneficiaries for a fixed price, generally 95% of the prevailing FFS costs in the area (adjusted for other factors). Consequently, MMC plans impose a variety of barriers to obtaining care that include relying on primary care physicians to act as gatekeepers in the system. The popularity of "open access" plans in the commercial market suggests that purchasers of care are willing to pay more to eliminate some of these restrictions, but to date, such options have generally not been available in managed Medicare plans. MMC respondents, however, reported less difficulty with paperwork and obtaining information. Traditional Medicare does not cover preventive visits and has a variety of copayments and deductibles that must be paid by the beneficiary or handled by supplemental insurers. It is not surprising that FFS enrollees had more difficulty in this area compared with members of a single health plan that covers most services with limited out-of-pocket payments.

The superiority of physician ratings in traditional FFS Medicare is somewhat unexpected because in previous work we had found that there was more variability in ratings of managed care physicians across different markets than between health plans operating within the same market.[22] This finding, however, is consistent with one other recent report in the literature, as well as with findings from 2 larger-scale evaluations of MMC conducted more than a decade ago when there were far fewer participating health plans located in select geographic areas.[14-16]

In most parts of the country, managed care plans have large and overlapping networks of physicians that often include most physicians in the market. MMC plans, however, might differ from other managed care plans that serve only commercially insured persons. MMC plans do not have the opportunity to negotiate premiums from Medicare, as is done in the commercial market. Given this lack of flexibility and the potentially high costs of treating an older population, plans might choose to restrict their networks for their Medicare products to physician groups that have demonstrated an ability to manage care and control use, rather than offering the all-inclusive networks of their commercial products. Furthermore, many physician groups that do not have the ability to adequately manage the delivery of services do not want to participate in MMC, particularly when expected to practice within the constraints of capitation. In addition, in some areas such as northern California and Washington, staff- and group-model plans are dominant in the Medicare market, and these types of health plans have closed networks of physicians that differ from traditional Medicare. Thus, the differences we observe might reflect care being delivered by different physicians. Alternatively, physicians might act differently toward their Medicare patients, depending on whether they are enrolled in MMC, or Medicare enrollees might rate their physicians more highly when they have more choices available to them. Consumers are willing to pay more for health plans that offer more choice of physician, and previous research on the psychology of choice has shown that consumers who have a choice in health plan are more satisfied with the plan than those who do not.[34,35] Consequently, health plan policies that constrain choice might also affect ratings of physicians. An additional possible contributing factor relates to the strength of the patient-physician relationship. In some cases, enrolling in managed care necessitates choosing a new physician, and because of the new relationship, beneficiaries may not rate these physicians as highly. Further research is needed to distinguish between these hypotheses.

Previous research in this Medicare population suggests that the differences we found are clinically meaningful, as well as statistically significant. For instance, Medicare beneficiaries who rate their health plan lower have substantially higher rates of disenrollment than beneficiaries who rate their plans more highly.[36] Controlling for all other factors, a 1-point decrease in the overall plan rating is, on average, associated with an absolute increase of 11% in the disenrollment rate (the mean disenrollment rate in that study was 12%). Conversely, if all 35 million elderly Medicare beneficiaries were switched into managed care and experienced an increase in influenza vacci-

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nations equal to the managed care–FFS gap we observed, an additional 1.4 million Medicare beneficiaries would receive the influenza vaccination in a given year.[37] According to estimates from Nichol and colleagues,[38] this increase would result in 11 864 to 14 737 fewer deaths and more than 9000 fewer hospitalizations annually. The magnitude of the differences that we observed between MMC and FFS Medicare was similar to the magnitude of differences among competing health plans. For instance, the difference between the 25th and 75th percentile of performance on the "getting needed care" scale for MMC is the same (.09) as the difference we observed between FFS and MMC overall.

Our study had several limitations. Most important, despite adjustments to remove the effects of selection related to health status, age, or education between managed care and FFS, unmeasured confounders might have influenced our findings. We would expect, however, that beneficiaries with the most significant concerns about managed care would elect to continue in FFS Medicare when given a choice, suggesting that reported differences might have been even larger, had beneficiaries been randomly assigned to the 2 systems. In addition, the response rate for the MMC survey was better than that of the FFS survey, which was likely due to differences in the quality of contact information for the 2 groups or slight differences in survey protocols, but we have no reason to suspect that the differences are related to CAHPS scores. Nonetheless, case-mix adjustment and nonresponse weights were used to mitigate this factor. Last, many beneficiaries in FFS and MMC have one of several forms of supplemental coverage, but because these are not reported reliably on the survey, we did not include a measure of supplemental insurance in our analyses. In previous analyses, the CAHPS FFS team did not find meaningful differences on CAHPS ratings and reports between FFS enrollees who did and did not report supplemental coverage.[39,40]

Our findings have important policy implications. These data can be used to explore and refine different models of care across the country and provide information to quality improvement organizations and health plans in areas of the country where problems might exist. In addition, similar data will be collected throughout the coming years and can be used to evaluate changes in the Medicare program and track the effects of the introduction of new plan types or other policy initiatives. Neither MMC nor FFS Medicare is better in all aspects of care. Our data suggest that managed care was better at delivering preventive services, and traditional Medicare was better in other aspects of care related to access and beneficiary experiences. The tradeoffs between these strengths should be considered when policy decisions are made that affect beneficiary choice or influence beneficiaries to choose one model of care over another.

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Acquisition of data: Zaslavsky, Cleary.
Analysis and interpretation of data: Landon, Zaslavsky, Bernard, Cioffi, Cleary.
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Perfect as the wing of a bird may be, it will never enable the bird to fly if unsupported by the air. Facts are the air of science. Without them a man can never rise.
—Ivan Pavlov (1849-1936)

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