

The Minnesota Senior Health Options Program: An Early Effort at Integrating Care for the Dually Eligible

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Background. Duplication of funding and resultant inefficiencies have prompted active consideration of pooling the funding for persons covered by both Medicare and Medicaid into a single managed care program. This study reports the initial results of the first such program.

Methods. A sample of enrollees in Minnesota Senior Health Options (MSHO) and two sets of controls (within the same catchment area and outside it) as well as their families were interviewed to assess their functional status and satisfaction with their medical care. Respondents included those living in the community and those living in nursing homes.

Results. The MSHO and control samples were generally alike in terms of demographics and illness patterns. The differences that were found reflected those attributable to geographic location more than program. The groups were also similar with regard to functional status. There were few satisfaction differences among the community-dwelling samples, but the MSHO nursing residents and especially their families expressed more satisfaction with several aspects of care.

Conclusions. Whereas no causal conclusions about outcomes can be drawn from a cross-sectional sample, there is no indication that managed care for the dually eligible population has profound impacts on care. However, the system of care provided to nursing home residents is appreciated over traditional care.

THE Department of Health and Human Services has been encouraging efforts to better coordinate services provided to individuals eligible for both Medicare and Medicaid. These individuals are often frail elderly Medicare beneficiaries who have high medical costs and have spent down their income and assets to become Medicaid eligible, or they are low-income elderly persons who have aged into the Medicare program but are not necessarily frail. Approximately 17% of individuals enrolled in Medicare were also covered by the Medicaid program and represented 28% of total Medicare expenditures during 1997. Dual eligibles represent approximately 19% of the Medicaid population and account for 35% of Medicaid expenditures (1). Whereas these two programs potentially provide a comprehensive package of benefits, some observers note a lack of coordination in benefits and resultant fragmented care, which is both wasteful and inefficient. Medicare and Medicaid have different payment rules and provider qualifications, offer different benefit packages, and have little incentive for integration.

In response to these perceived problems, a series of demonstration programs was launched to test the effects of merging payments for health and long-term care of these so-called dual eligibles into a single managed care program. The first of these demonstrations was the Minnesota Senior Health Options program (MSHO). MSHO expands Minnesota's extant mandatory Medicaid prepaid managed care program (PMAP) to cover more Medicaid services (specifically a portion of nursing home costs) and merges it with prepaid Medicare managed care. Under MSHO, capitated Medicare and Medicaid payments are pooled to create a single fund.

The size of the payment depends on whether the enrollee resides in a nursing home or is deemed nursing home eligible but lives in the community and is not seriously disabled. Whereas this money must be used to cover at least the usual benefits covered by each program, the funds can be used to obtain services that are outside the range of defined benefits to meet the specific needs of the enrollee. This flexibility, together with mandated care coordination, is seen as a major advantage of the integrated program.

The MSHO program relies upon capitation and subcapitation arrangements to encourage cost controls and adds a case management service to coordinate care across these autonomous groups. Whereas each plan establishes arrangements with providers to meet the needs of their patient populations, it is up to the care coordinator to navigate the system and obtain these services. The plans are under no mandate to change the way in which care is provided. Because the care is provided primarily by individual provider groups for whom MSHO represents a very small proportion of their overall business, most are unwilling or unable to change their practice style to accommodate MSHO enrollees. A majority of MSHO enrollees are nursing home residents receiving EverCare services that do not differ substantially from what the program already provides through its typical Medicare HMO plan (2).

The demonstration program began in February 1997 and was initially offered in four counties. It has expanded to additional counties in the seven-county waiver demonstration area within the metropolitan Twin Cities area. The MSHO program contracts with three health plans (Medica, UCare,

and Metropolitan Health Plan) that in turn subcontract with various programs and provider organizations to offer the full array of acute and long-term services mandated by Medicare and Medicaid. The specific arrangements vary by plan and by the nature of the enrollee, but the basic arrangement is a series of subcontracts, some of which include subcapitated payment and some of which employ other arrangements. Care coordination is provided to varying degrees to all enrollees; its extent depends on their level of disability and the complexity of their care.

Because MSHO involves managed Medicare, enrollment is voluntary. Those opting not to enroll can continue to receive Medicare-covered services in a fee-for-service mode, whereas they obtain Medicaid under a mandatory managed care program.

This paper describes the initial findings from the federally mandated evaluation of the MSHO program, comparing the nature of the enrollees in MSHO with that of two control groups chosen to address issues of potential selection bias.

METHODS

Sample

The respondents were all dual-eligible individuals (those enrolled in PMAP and eligible for Medicare) who lived in the defined study areas. Family members of dual eligibles were also asked to participate, when contact with a knowledgeable family member could be established. At the start of the sampling process in October 1998, over 21,665 people were enrolled in PMAP in the defined study areas, and 4,127 individuals were enrolled in MSHO.

To address the issue of selection bias, the evaluation used two separate comparison groups: dually eligible individuals who chose not to enroll and a similar group who did not have the option to enroll because they lived in an area where the program was not offered. By comparing the MSHO enrollees with a group that was comparable but did not have the option to enroll, we can control for the effect of selection. Using a group that was exposed to the same group of providers but chose not to enroll in MSHO (the in-area control group) addresses the effect of enrollment. Both control groups consisted of individuals enrolled in PMAP who were also enrolled in Medicare.

The two control groups were each matched to their corresponding experimental groups (both institutional and community) on the basis of age, gender, race, previous nursing home residence since the start of MSHO, and their Medicare managed care enrollment status prior to MSHO enrollment. An additional criterion, county residency, was used to match the in-area controls to the MSHO group. Individuals were selected for interview at random from these matched control groups. Parallel sampling strategies were implemented for both community-dwelling and nursing home resident enrollees. On the basis of information provided from state data files, individuals were identified as living in the community or in a skilled nursing facility and were further separated into experimental, in-area control, or out-of-area control groups on the basis of their enrollment status and area of residence. Approximately one half of the PMAP

population and 75% of the MSHO population lived in nursing homes.

Data Collection

The survey data collection began in October 1998. MSHO and control subjects were interviewed in person by trained interviewers. When the respondent could not provide coherent information, a proxy was identified. The first choice for the proxy respondent was a family member who had regular contact with the enrollee, but in some instances (especially among nursing home residents) no family member could be identified. In these cases a staff proxy was used. In addition to the family proxies, for each enrollee or control beneficiary or staff proxy completing a survey, a family member was identified, when possible, to complete a telephone interview to obtain their perspective and to gather data on caregiving burden.

Survey Instruments

Areas covered by the survey instruments included a description of the person, information regarding the use of formal and informal care (for community-dwelling respondents), satisfaction (including issues of access to services, advance medical directives, general health, functional status [activities of daily living (ADLs) and instrumental activities of daily living (IADLs)]), and informal caregiver burden (for family of community respondents). Two potential sources of information were used: the client (a family proxy, or a staff proxy when the client was unable to complete the interview) and a family member. In the majority of cases a beneficiary and their family member were interviewed. Questions regarding satisfaction with MSHO specifically and health care in general were asked of clients and their families.

Wherever possible, previously tested measures were utilized. Items regarding ADLs were derived from instruments developed by Finch and colleagues (3). Questions focus on beneficiaries' ability to engage in basic daily activities (e.g., bathing, dressing, toileting, transferring, feeding, and walking). IADL items focus on the beneficiaries' ability to engage in a range of higher-order daily activities from shopping to the management of finances.

In addition to questions about ability to perform ADLs and IADLs, questions adapted from the work of Allen and Mor were also posed to those who reported functional difficulties to look for evidence of adverse events as a result of unmet need (4). For example, someone who reported difficulties using the toilet was asked if they had needed help and did not receive it, if they were wet or soiled because they did not receive this help, and if they had to wait more than 20 minutes before receiving help. Unmet need was also measured with regard to transferring, where patients were asked if they needed additional help getting in or out of a bed or a chair and did not receive it, and if they had fallen as a result of this lack of assistance.

Satisfaction questions were adapted from an approach that had been used previously in a study of assisted living. In this method, respondents were first asked to agree or disagree with a statement regarding receipt of services or about the nature of the services they received (e.g., were services pro-

vided when needed, did personnel communicate effectively, did patients [or families] participate in decision making). For each item, they were then asked to indicate how important such a service or style of practice was to them. The latter weight was used to create an individual preference-weighted satisfaction score. Parallel versions of the satisfaction items were used with both enrollees and family respondents.

Sample Size

The sample was stratified by community and nursing home residence and included a matched number of individuals in each of the two control groups. A target sample of 600 was chosen to ensure an end count of approximately 400 surveys without replacement.

There were many more instances in the community-dwelling control group where sampled individuals did not speak English or did not speak it well enough to understand the survey. Replacements were made to the study sample only for the in-area control group. Shortly into data collection our tracking records revealed a large number of cases falling out of the sample due to language barriers. It was also found that a large number of proxies were being used to complete many of these interviews for the same reason. Whereas we had anticipated a 20% proxy rate for the community sample, the proxy rate for the community control group exceeded our expectations. It was important to maintain a control group that reflected our experimental group, and for this reason, replacements were made to maintain the balance. Therefore, if the individual was identified as non-English speaking, we replaced them without attempting to identify a proxy.

Univariate Analysis

Because of wide differences in the composition of the groups, the findings are presented separately for the nursing home and community-dwelling samples with no efforts made to create overall rates. Chi-square independence tests were used for categorical data, and independent sample *t* tests were used for continuous variables. Each control group was compared with the MSHO sample separately. When appropriate (e.g., demographics, disability), proxy and respondent data were combined, but usually they were analyzed separately. However, the family-specific responses were separated by only the location of the enrollees (i.e., nursing home or community).

Multivariate Analysis of Satisfaction

To determine the effect of MSHO enrollment on the individual satisfaction items, risk-adjusted logistic regression models were used to account for possible effects of exogenous variables on satisfaction ratings. Characteristics that might affect an individual's response were included in a stepwise regression model. The final variables included in the regression models are indicated by superscripts in the following list. "C" indicates that the variable was significant for community cases, and "N" indicates that the variable was significant for nursing home cases. For beneficiaries, the characteristics included age^{C,N}, gender^{C,N}, education^{C,N}, race^{C,N}, ADL score^N, IADL score^C, number of major diagnoses^N, number of items missed on the mental status ques-

tionnaire (MSQ)^{C,N}, and study group^{C,N}. For family members, the initial set of control variables included beneficiary age^{C,N}, ADL score^N, IADL score^C, number of major diagnoses, number of items missed on MSQ; family member age^C, gender^N, education^N and race^C, and study group^{C,N}.

Stepwise regressions were used to determine which of these variables were pertinent to include in each risk-adjusted model. The results of these analyses revealed that only a few variables were necessary. Whereas depression was considered a characteristic of the beneficiary and significant in predicting satisfaction, it was not included in this analysis because it is a treatable problem and the beneficiary's satisfaction may be a result of the quality of his or her treatment.

Adjusted odds ratios were calculated for each of the satisfaction questions. The respondents' answers to each satisfaction item were coded zero if they agreed with the item and one if they disagreed. We emphasized dissatisfaction rather than satisfaction because agreement was the norm. Individual satisfaction items were regressed on the variables identified from the stepwise analysis, including an indicator variable for study group membership. The comparison group for the indicator variable was the MSHO group.

RESULTS

Although there was a need to replace subjects for the in-area controls because of language problems, the actual response rates for the rest of the samples ranged from 78% to 90%. Of those approached, only 2% to 3% of nursing home residents and 7% to 13% of community-dwelling residents refused to participate.

As Table 1 shows, the demographics for the patients were fairly similar across the three study groups. Among the community sample, the out-of-area controls tended to have more white respondents with less education. This group also reported less hypertension. Among the nursing home samples, the out-of-area differences were more substantial. In addition to being more white and less educated, they were less cognitively impaired than the MSHO sample. Both control groups were more likely to rate their health status as fair or poor than the MSHO sample. There were also differences in disease reports. Consistent with the cognitive performance, both control groups had less dementia. The in-area control had more myocardial infarction than the MSHO sample. The out-of-area control had less "other mental health" and more stroke than the MSHO sample.

Functional and comfort issues are addressed in Table 2. Whereas about the same proportion of respondents reported moderate or severe pain or discomfort across both setting and sample, the community-dwelling in-area controls and the out-of-area nursing home controls were more likely to say that pain interfered with their normal activity. Nonetheless, there was no difference among the community or nursing home samples in their satisfaction with pain control.

Measures of ADL dependencies among community-dwelling respondents showed no differences between the in-area controls and the MSHO sample. The out-of-area controls were less likely to need help with feeding and walking than the MSHO sample. Among the nursing home sample,

Table 1. Characteristics of Sample

Characteristic	Community					Nursing Home				
	MSHO	In-Area Control	p Value	Out-of-Area Control	p Value	MSHO	In-Area Control	p Value	Out-of-Area Control	p Value
Female	80.2	81.9	NS	81.5	NS	80.0	79.0	NS	77.1	NS
White	71.1	68	NS	88.8	.000	94.6	94.3	NS	97.7	.001
Education >grade 8	69.3	64.6	NS	60.9	.010	65.4	66.7	NS	59.3	.018
Self-rated health fair/poor*	32.9	40.2	.035	38.1	NS	28.0	40.1	.013	38.9	.019
Mental status >3 errors*	12.7	16.2	NS	10.6	NS	45.8	49.2	NS	35.8	.033
Hypertension	57.8	57.6	NS	51.4	.043	41.9	45.1	NS	39.9	NS
Myocardial infarction	18	17.3	NS	17.2	NS	11.1	15.4	.015	12.7	NS
Coronary heart disease	15.6	15.2	NS	17.9	NS	11.2	13.2	NS	13.6	NS
Other heart disease	29.6	25.3	NS	27.1	NS	27.8	27.9	NS	27.5	NS
Cancer	19.2	20.1	NS	15.2	NS	9.7	12.3	NS	14.2	NS
Diabetes	25.1	23.9	NS	27.3	NS	17.9	20.1	NS	18.8	NS
Dementia	7.7	7.8	NS	5.3	NS	58.1	51.3	.006	49.5	.001
Other mental health	14.3	17.2	NS	11.5	NS	31	30.9	NS	22.1	.000
COPD	19.4	18.3	NS	19.3	NS	11.4	15.3	.021	11.8	NS
Stroke	15.2	12.8	NS	17.7	NS	27.5	28.6	NS	32	.035
Parkinson's disease	2.7	1.7	NS	1.7	NS	6.6	6.8	NS	6.4	NS
Arthritis	59.8	60.6	NS	61.9	NS	46.7	48.4	NS	48.7	NS
Hip fracture	9.7	8.1	NS	10.8	NS	20.8	21.6	NS	21.7	NS

Notes: MSHO = Minnesota Senior Health Options; NS = not significant; COPD = chronic obstructive pulmonary disease. Values are percentages of respondents and proxies unless otherwise indicated.

*Based on patients' reports only.

the out-of-area controls showed more impairment in toileting and transferring, whereas the in-area controls had less impairment in feeding. The impairment levels for nursing home residents were expectedly much higher than those for community-dwelling respondents. Among the community

residents there was some variation in IADL dependency. In-area controls were more impaired in housework and meal preparation. Out-of-area controls had less difficulty with shopping and using transportation but had more difficulty in taking medications.

Table 2. Evidence of Dependency and Discomfort

	Community					Nursing Home				
	MSHO	In-Area Control	p Value	Out-of-Area Control	p Value	MSHO	In-Area Control	p Value	Out-of-Area Control	p Value
Discomfort Item										
Pain/discomfort moderate/severe*	43.6	42.0	NS	42.7	NS	34.7	38.9	NS	41.3	NS
If pain, interferes with normal activity some/most of time*	49.6	60.6	.011	56.9	NS	40.7	49.6	NS	54.7	.027
Very satisfied with pain control*	60.4	52.9	NS	58.3	NS	47.4	46	NS	66	.006
Depression >5 on GDS*	16.1	16.5	NS	17.3	NS	28.4	30.7	NS	31.9	NS
Dependency Item										
Needs a little help or more with ADLs										
Bathing	27.9	23.6	NS	27.6	NS	NA	NA	NA	NA	NA
Dressing	14.5	14.4	NS	14.4	NS	77.8	75.8	NS	78.8	NS
Toileting	7.8	7.6	NS	7.8	NS	65.2	62.6	NS	69.8	.047
Transferring	7.6	8.8	NS	4.7	NS	64.4	62.5	NS	69.1	.035
Feeding	4.3	3.9	NS	0.8	.002	41	34.2	.008	40.7	NS
Able to walk outside room	90.3	92.2	NS	95.6	.003	41.1	44.2	NS	39.6	NS
Difficulty with IADLs										
Shopping	21.6	20.5	NS	15.9	.016	NA	NA	NA	NA	NA
Using phone	11.9	10.8	NS	9.7	NS	NA	NA	NA	NA	NA
Doing light housework	12.9	14.4	.018	12.2	NS	NA	NA	NA	NA	NA
Preparing meals	12.4	14.4	.041	12.8	NS	NA	NA	NA	NA	NA
Using transportation	23.6	21.1	NS	14.8	.000	NA	NA	NA	NA	NA
Taking medications	11	14.2	NS	19.3	.003	NA	NA	NA	NA	NA
Managing finances	14.8	15.3	NS	14.5	NS	NA	NA	NA	NA	NA

Notes: MSHO = Minnesota Senior Health Options; NS = not significant; GDS = Geriatric Depression Scale; ADLs = activities of daily living; IADLs = instrumental activities of daily living. Values are percentages of respondents and proxies unless otherwise indicated. Bathing and ADL and IADL items were not asked of nursing home residents because they do not perform these tasks.

*Based on patients' reports only.

Table 3. Ratio of Unmet Needs (Persons with Unmet Need/Respondents With Dependency)

Unmet Need	Community					Nursing Home				
	MSHO	In-Area Control	p Value	Out-of-Area Control	p Value	MSHO	In-Area Control	p Value	Out-of-Area Control	p Value
Need help with bathing and did not get	14/87	12/63	NS	3/70	.015	NA	NA	NA	NA	NA
Did not bathe	21/86	13/63	NS	11/70	NS	NA	NA	NA	NA	NA
Need help with dressing and did not get	8/53	12/50	NS	3/32	NS	15/68	18/87	NS	16/118	NS
Unable to put on clean clothes	7/53	5/49	NS	5/32	NS	14/70	12/86	NS	9/117	.013
Need help with toileting and did not get	4/20	3/19	NS	2/9	NS	17/54	18/79	NS	20/92	NS
Wet or soiled because no help available*	8/19	9/18	NS	2/10	NS	24/54	25/79	NS	18/90	.002
Had to wait ≥20 min and wet/soiled	4/20	4/19	NS	1/10	NS	18/55	18/77	NS	17/87	NS
Need help transferring and did not get	5/53	13/52	.031	6/30	NS	17/70	15/83	NS	19/103	NS
Fell because no help	4/54	4/53	NS	6/30	NS	9/71	12/80	NS	14/103	NS
Need help feeding and did not get	1/9	2/11	NS	0	NS	3/17	3/20	NS	7/33	NS
Hungry because no help	1/8	0	NS	0	NS	4/17	3/20	NS	2/33	NS
Thirsty because no help	2/9	0	NS	0	NS	5/18	2/19	NS	6/34	NS

Note: MSHO = Minnesota Senior Health Options; NS = not significant.

*Based on patients' reports only.

When the extent of unmet needs was explored among those who reported at least some dependency, only a small number of differences were found. Table 3 presents the data in the form of a ratio to emphasize the small number of cases eligible for each item. In the community sample, the in-area control respondents were more likely to report that they needed help transferring and did not receive it (25% compared with 9.4% for the MSHO respondents). Among the nursing home sample, the out-of-area controls had significantly less unmet need with regard to putting on clean clothes (7.7% compared with 20% for MSHO) and being wet or soiled because no help was available (20% vs 44.4% of the MSHO respondents). Despite the small numbers of persons eligible to respond to each item, there is no consistent pattern favoring any group in either the community or the nursing home.

Table 4 shows the extent of informal and formal care for the community samples. Here, too, few significant differ-

ences are observed. Fewer in-area controls received a nurse visit or used special transportation in the prior 3 months. Fewer out-of-area controls used special transportation.

As shown in Table 5, MSHO enrollees in both the community and nursing home were more likely to have established various types of advanced medical directives in writing. In general, there were fewer community residents who had any type of advanced medical directive compared with nursing home residents. Whereas MSHO enrollees were more likely to report having an advanced directive, the proportions of respondents saying that someone had suggested establishing an advanced directive was about the same across the comparison groups in the community (40–44%) and nursing home (54–59%) settings. Among the community-dwelling samples, significantly more of the in-area control group claimed to have felt pressured to set up an advanced directive.

Table 4. Formal and Informal Care for Community Samples

Type of Care	MSHO	In-Area Control	p Value	Out-of-Area Control	p Value
Used homemaker in past 3 wk	36.5	33.1	NS	39.3	NS
Used home health aide in past 3 wk	23.2	22	NS	25.2	NS
Nurse visit in past 3 mo	39	25.3	.000	34.2	NS
Used Meals on Wheels in past 3 mo	19.9	21.3	NS	21.9	NS
Used special transportation in past 3 mo	40.6	34.2	.027	31.3	.004
Used adult daycare in past 3 mo	4.2	6.2	NS	6.9	NS
Used outpatient rehabilitation in past 3 mo	5.2	6.4	NS	5.8	NS
Received physical therapy in past 3 mo	10.2	8.7	NS	6.9	NS
Received occupational therapy in past 3 mo	3.4	2.5	NS	2.2	NS
Received speech therapy in past 3 mo	1	1.3	NS	.6	NS
Currently using medical equipment in the home	9.5	8.5	NS	7.2	NS
Receive help from family or friends with					
Personal care	8.1	10.5	NS	9.1	NS
Household tasks	27.5	30.7	NS	22.8	NS
Arranging for transportation	35.6	39.1	NS	40.9	NS
Making sure patient is safe	18.5	22.2	NS	12.8	.025

Notes: MSHO = Minnesota Senior Health Options; NS = not significant. Values are percentages of respondents and proxies unless otherwise indicated.

Table 5. Frequency of Advanced Medical Directives (Percent of Persons With Directive)

Patient Has Put in Writing	Community					Nursing Home				
	MSHO	In-Area Control	p Value	Out-of-Area Control	p Value	MSHO	In-Area Control	p Value	Out-of-Area Control	p Value
Does not want CPR	23.3	15.2	.002	16.2	.010	68.8	62.1	.008	66.1	NS
Does not want to be put on ventilator	19.9	15.1	.044	15.0	NS	63.9	58.0	.020	47.5	.000
Does not want tube feeding	16.8	13.6	NS	12.9	NS	57.2	44.3	.000	44.0	.000
Does not want to have infections treated	7.0	4.9	NS	2.1	.002	24.4	23.7	NS	16.3	.000
Does not want to be admitted to the hospital	6.2	3.9	NS	.3	.000	27.5	24.5	NS	16.4	.000
Does not want to have surgery	6.8	4.6	NS	1.5	.000	26.8	22.9	NS	15.8	.000
Anyone ever suggest that patient establish an Advanced Medical Directive	43.6	41.6	NS	39.9	NS	55.8	58.7	NS	54.3	NS
Patient felt pressured to establish an Advanced Medical Directive	3.8	10.1	.021	5.6	NS	5.1	3.4	NS	1.9	NS

Notes: MSHO = Minnesota Senior Health Options; NS = not significant. Values are percentages of respondents and proxies unless otherwise indicated.

Tables 6 and 7 present the adjusted odds ratios (with 95% confidence intervals) of dissatisfaction expressed by each control group compared with the MSHO group for each of the satisfaction items. Among the community beneficiaries,

there was a significant difference for only one item. MSHO respondents were more than twice as likely to expect that they would receive occupational or physical therapy as in-area controls. Among the corresponding family members,

Table 6. Odds Ratios of Being Dissatisfied Compared With MSHO Sample Among Community Beneficiaries and Their Families

Dependent Variable	Control Group	Beneficiaries		Families	
		Odds Ratio (CI)	p Value	Odds Ratio (CI)	p Value
Receive OT, PT, or ST if needed	In area	2.29 (1.06–4.94)	.034*	1.19 (0.501–2.82)	.694
	Out of area	1.18 (0.514–2.73)	.691	0.666 (0.241–1.83)	.433
Hearing and eyesight checked regularly	In area	0.838 (0.523–1.34)	.461	1.17 (0.606–2.27)	.634
	Out of area	1.09 (0.698–1.70)	.705	1.57 (0.787–3.13)	.201
Your [†] doctor or other health professional (such as an NP/PA) responds quickly if you get sick	In area	0.817 (0.389–1.72)	.594	1.60 (0.766–3.33)	.212
	Out of area	0.704 (0.340–1.45)	.345	1.30 (0.598–2.84)	.506
Your doctor or other health professional (such as an NP/PA) sees you often enough to treat your health problems	In area	0.798 (0.426–1.50)	.482	1.25 (0.649–2.43)	.500
	Out of area	1.18 (0.670–2.11)	.554	1.39 (0.690–2.79)	.359
One person is clearly in charge of your medical care	In area	1.04 (0.675–1.60)	.858	1.38 (0.802–2.38)	.244
	Out of area	1.10 (0.715–1.68)	.674	0.871 (0.478–1.59)	.651
Your doctor or other health professional (such as an NP/PA) spends enough time with you	In area	0.684 (0.394–1.19)	.179	1.57 (0.793–3.12)	.195
	Out of area	0.803 (0.478–1.35)	.407	1.15 (0.537–2.47)	.717
Your doctor or other health professional (such as an NP/PA) treats you with respect	In area	1.20 (0.411–3.52)	.736	2.90 (0.565–14.89)	.202
	Out of area	0.466 (0.118–1.85)	.278	2.76 (0.498–15.27)	.246
Your doctor or other health professional (such as an NP/PA) explains your health problems	In area	0.558 (0.270–1.15)	.116	1.12 (0.500–2.54)	.775
	Out of area	0.792 (0.416–1.51)	.476	1.32 (0.595–2.91)	.498
You are involved in making decisions about your medical care	In area	1.30 (0.780–2.17)	.312	1.64 (0.999–2.71)	.050
	Out of area	1.00 (0.581–1.73)	.990	2.33 (1.40–3.88)	.001*
Your doctor or other health professional (such as an NP/PA) is responsive to your concerns when you are having serious health problems	In area	0.561 (0.220–1.43)	.226	2.30 (0.692–7.66)	.174
	Out of area	0.760 (0.334–1.73)	.513	4.40 (1.43–13.53)	.010*
Your doctor or other health professional (such as an NP/PA) will hospitalize you when your health problems require it	In area	1.17 (0.332–4.09)	.811	1.41 (0.267–7.42)	.687
	Out of area	2.01 (0.654–6.16)	.224	1.08 (0.230–5.04)	.924

Note: MSHO = Minnesota Senior Health Options; CI = confidence interval; OT = occupational therapy; PT = physical therapy; ST = speech therapy; NP = nurse practitioner; PA = physician's assistant.

*p < .05.

†Statements are phrased in third person for family interviews.

Table 7. Odds Ratios of Being Dissatisfied Compared With MSHO Sample Among Nursing Home Residents and Their Families

Dependent Variable	Control Group	Residents		Families	
		Odds Ratio (CI)	<i>p</i> Value	Odds Ratio (CI)	<i>p</i> Value
Receive OT, PT, or ST if needed	In area	0.639 (0.214–1.91)	.421	0.689 (0.337–1.41)	.307
	Out of area	0.729 (0.729–2.02)	.542	1.30 (0.736–2.31)	.364
Hearing and eyesight checked regularly	In area	0.940 (0.534–1.65)	.829	1.48 (0.824–2.65)	.190
	Out of area	0.872 (0.505–1.51)	.623	2.52 (1.51–4.20)	.000**
MD or other responds quickly if you [†] get sick	In area	0.996 (0.419–2.37)	.993	2.82 (1.09–7.36)	.033*
	Out of area	1.01 (0.438–2.32)	.987	2.89 (1.17–7.11)	.021*
MD or other sees you often enough to treat your health problems	In area	1.16 (0.616–2.19)	.642	2.61 (1.12–6.11)	.027*
	Out of area	1.10 (0.589–2.05)	.768	2.91 (1.32–6.40)	.008**
One person is clearly in charge of your medical care	In area	1.30 (0.663–2.55)	.445	1.21 (0.722–2.02)	.470
	Out of area	1.30 (0.682–2.47)	.427	1.32 (0.840–2.07)	.229
MD or other provider spends enough time with you	In area	0.903 (0.497–1.64)	.736	2.21 (1.16–4.22)	.016*
	Out of area	1.19 (0.681–2.08)	.544	2.45 (1.35–4.46)	.003**
MD or other provider treats you with respect	In area	0.140 (0.016–1.24)	.077	6.79 (0.824–55.98)	.075
	Out of area	0.096 (0.011–0.866)	.037*	4.62 (0.570–37.51)	.152
Nursing home staff treats you with respect	In area	0.704 (0.289–1.72)	.441	1.97 (0.813–4.76)	.133
	Out of area	0.597 (0.248–1.44)	.251	1.14 (0.476–2.72)	.772
MD or other provider explains your health problems	In area	0.616 (0.297–1.28)	.192	4.30 (1.81–10.22)	.001**
	Out of area	0.769 (0.394–1.50)	.440	3.32 (1.41–7.38)	.006**
You are involved in making decisions about your medical care	In area	0.593 (0.318–1.10)	.100	0.965 (0.491–1.89)	.917
	Out of area	1.14 (0.658–1.96)	.649	0.995 (0.544–1.82)	.987
MD or other provider is responsive to your concerns when you are having serious health problems	In area	1.13 (0.353–3.62)	.837	2.06 (0.809–5.27)	.130
	Out of area	1.31 (0.442–3.89)	.626	1.15 (0.459–2.91)	.758
MD or other provider will hospitalize you when your health problems require it	In area	1.85 (0.464–7.35)	.384	1.34 (0.525–3.41)	.543
	Out of area	0.524 (0.102–2.69)	.438	0.567 (0.214–1.50)	.253

Notes: MSHO = Minnesota Senior Health Options; OT = occupation therapy; PT = physical therapy; ST = speech therapy; MD = medical doctor.

* $p < .05$; ** $p < .01$.

[†]Statements are phrased in third person for family interviews.

MSHO families were more likely than out-of-area control family members to believe that the medical providers would be responsive to their relatives' concerns when they were having serious health problems and that they are involved in making decisions about the patient's medical care.

The same approach was followed for nursing home residents, as shown in Table 7. Here too there were few significant differences among the enrollee groups. MSHO respondents were less likely than out-of-area controls to report that their medical provider treats them with respect. There were many more differences among family members. MSHO families were more likely than out-of-area controls to believe that their relatives' hearing and vision were checked. Both groups of control families were less satisfied than the MSHO families about the responsiveness of the medical providers, their likelihood to visit patients often enough, to spend adequate time with patients, or to explain health problems.

DISCUSSION

Overall, the study groups seem to be generally comparable. The differences that do exist reveal more of a geo-

graphic effect than a program effect, suggesting that the differences are more a result of resource availability in the nonmetropolitan areas than a program effect due to enrollment in MSHO.

As expected, the community-dwelling group was much healthier than the nursing home residents. The community-dwelling population on the whole is a very functional group, with few differences across study groups. Less than 10% of each group has limitations with toileting, transferring, feeding, or walking. Because the survey relied on a cross-sectional design, no causal inferences can be made about this lack of differences.

The greater extent of advanced directives among MSHO enrollees may reflect a deliberate effort to obtain such information. Managed care has an incentive to avoid futile care. However, neither of the MSHO samples reported a higher rate of feeling pressure to establish advance directives.

MSHO families seem more satisfied with their relatives' care than families of the controls. This is especially true for the families of nursing home residents. One possible explanation for this effect might be the greater exposure to the

EverCare model (2). Much of the primary care for nursing home residents under MSHO is delivered by EverCare or other organizations that use nurse practitioners as active members of the primary care team.

The findings here suggest that those who opt for MSHO appreciate some of the benefits it is striving to deliver. The families are more satisfied with the care being given. Enrollees are more likely to have advanced directives. There is no evidence that the informal care burden has been reduced, and the cross-sectional design does not allow any inferences about the implications of the similarities in functional and medical status between MSHO and control groups.

The inability to detect a difference in unmet needs may reflect the small sample sizes available. Few people in the community had substantial levels of disability, and there is no immediate reason to believe that the nursing home care itself should be different under MSHO.

Some of our observations have serious implications for the next phase of the MSHO evaluation. The majority of the community-dwelling clients do not appear to be severely disabled. It is not clear how much they would profit from a program that offers more coordinated care. The MSHO effect is seen more in the nursing home. Whereas care coordination should affect community residents more, many of these enrollees are too functional to trigger such attention. Care for the nursing home residents, by contrast, relies heavily on nurse practitioners to provide more intensive primary care. However, the use of an EverCare approach is not unique to MSHO. Indeed, EverCare was designed as a Medicare HMO.

The MSHO model itself is limited. As noted earlier, much of the primary care in the community is provided by physicians for whom such work constitutes only a small part of their practice. Getting them to change practice behaviors will not be easy under these circumstances. The task of creating a seamless system out of the currently fragmented care delivery programs falls to the care coordinators, but many of the community-dwelling enrollees are too functional to trigger extensive care coordination. For those in nursing homes the care coordinators are the same nurse

practitioners who provide the primary care. For those not receiving NP care, it is unclear just what the care coordinators can do beyond maintaining closer communication with families. Such attention may be the reason for the higher satisfaction scores.

Subsequent analyses of the MSHO demonstration will include an examination of longitudinal utilization data beginning prior to the implementation of the MSHO program to determine patterns of change in the use of services among both MSHO enrollees and controls in the community and nursing home settings. Evidence of changes in participants' functional status will come from data collected in a follow-up survey of the community-dwelling population and administrative data on case mix for the nursing home sample. This evaluation should provide useful insights on the effectiveness of this effort to coordinate Medicare and Medicaid services for older people.

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