

Aging With a Physical Disability in Medicaid Managed Care

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Abstract

This study examines health services appraisal (HSA) and unmet health-care needs for adults (age 50 and over) with physical disabilities in Medicaid managed care (MMC) versus Medicaid fee for service (FFS). Surveys from 309 individuals in MMC and 349 in FFS 2 years after MMC implementation included demographics, MMC processes, HSA, and unmet health-care needs. Regression analyses with HSA and unmet health-care needs as outcomes included demographics and group status (MMC or FFS) for the entire sample, and demographics and MMC processes (continuity of care, experience with care coordinators and primary care physicians) as independent variables for only MMC enrollees. Group status was not associated with HSA or unmet needs. Among MMC enrollees, better health and more positive MMC processes related to higher HSA and lower unmet needs. It is important to consider the perspectives of people aging with disabilities in MMC to better serve their needs.

Keywords

aging, physical disability, Medicaid, managed care

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Medicaid is the nation's largest public health insurance program, covering nearly 70 million low-income Americans, including adults and people with disabilities. Historically, Medicaid operated using a fee for service (FFS) delivery system, in which health-care providers were paid for each individual service by the state. However, states are increasingly transitioning Medicaid beneficiaries to managed care delivery systems, which involve states contracting with managed care organizations (MCOs) to deliver benefits and services to enrollees. Currently, over half of all Medicaid beneficiaries receive access to health-care through Medicaid managed care (MMC). Many managed care programs are organized around "triple aim": to improve population health, improve patient experiences with care, and reduce health-care expenditures (Berwick, Nolan, & Whittington, 2008). One way that many programs use to achieve these goals is to integrate services and provide better care coordination. Nationally, MMC is a growing trend, with 47 states currently implementing some form of managed care (Smith, Gifford, Ellis, Rudowitz, & Snyder, 2014).

Similar to how state Medicaid programs vary by state, MMC programs can be implemented in a variety of ways. Many are operated by for-profit insurance companies, although some states and locales have agency- or provider-led MCOs that are not-for-profit. Initially, most states focused their managed care programs on families and children and kept the most costly beneficiaries (i.e., the aged, people with chronic illnesses, and people with disabilities) on FFS Medicaid. However, this trend is changing. As Sparer (2012) noted, "[MMC] programs will grow over the next several years, adding millions of newly eligible beneficiaries, while also focusing far more on the aged, the disabled, and the chronically ill" (p. 1). Thus, MMC has rapidly grown as an approach for the aged, blind, and disabled population. Despite this trend, there has been little research on the perspectives of adults with disabilities and more specifically on aging adults with physical disabilities who transition into MMC. This group may be particularly vulnerable to changes in their health-care system. MMC programs can also vary according to the services they cover, with most providing acute health-care and behavioral services, and a growing number also including long-term services and supports.

This study examines the consumer experience of adults aged 50 and older with physical disabilities as they transitioned from an FFS Medicaid program to an MMC program in one Midwestern state. The program was run by two, large, for-profit insurance companies and covered comprehensive health and behavioral services. This study examines the impact of various aspects of MMC health care, including continuity of care, primary care physician (PCP)

attitudes and knowledge, and attitudes of care coordinators on enrollees' health-care services appraisal and perceived unmet health-care needs. Thus, this study contributes to the growing body of literature on the first two parts of the triple aim, by discussing the relationship between enrollee experiences and health-care quality, specifically unmet needs and satisfaction. Existing research on the third part of the triple aim has been mixed, with some studies showing that managed care does not impact state expenditures on Medicaid services, and others showing that it has helped reduce cost (Duggan & Hayford, 2013; Sparer, 2012). Exploration of the cost impact of this program is outside the scope of this research.

Literature Review

Currently, 22.2% of U.S. adults have a disability, and physical or mobility impairments are the most prevalent type of disability reported (Courtney-Long et al., 2015). The number of people with physical disabilities on Medicaid is increasing; for instance, in 2008, 32.1% of people aged 21–64 with physical disabilities received health insurance through Medicaid, compared to 40.4% in 2013 (Erickson, Lee, & von Schrader, 2013). Two of the primary reasons this shift is occurring are the expansion of Medicaid under the Affordable Care Act and the growth of MMC (Wachino, Artiga, & Rudowitz, 2014). Yet, little is known about the experiences of people with disabilities in MMC. The current research literature demonstrates that MMC beneficiaries with disabilities report a mix of positive and negative experiences (Burns, 2009).

Coughlin, Long, and Graves (2008) analyzed National Health Interview Surveys from 1997 to 2004 to determine whether MMC beneficiaries with disabilities received improved access to care, compared to FFS beneficiaries with disabilities. The sample consisted of adults aged 19–64. Results indicated that enrollees in urban areas experienced some improvements in access to care, but there was little evidence of the same phenomenon in rural areas.

Graham, Kurtovich, Ivey, and Neuhasuer (2011) assessed the differences in perceptions of quality of care for people with disabilities and seniors who were enrolled in FFS versus those who voluntarily enrolled in MMC in California. Using a cross-sectional research design, 200 MMC beneficiaries and 203 FFS beneficiaries were surveyed via telephone. Beneficiaries in MMC were significantly more likely to report being very satisfied with their benefits than respondents in FFS. The majority of MMC enrollees also reported that their quality of care was the same or better than when they were in FFS. Graham et al. (2011) found no significant differences between

people in MMC and people in FFS in regards to access to prescription drugs, primary care, specialty care, or disability access.

Conversely, Hall, Kurth, Chapman, and Shireman (2015) reported that MMC beneficiaries with disabilities experienced numerous challenges during and after their transition to managed care. Their mixed methods study found that participants encountered a variety of barriers related to disability, including issues with transportation, durable medical equipment, care coordination, communication, increased out-of-pocket costs, and access to care.

Hiranandani (2011) found similar challenges in her qualitative study exploring the experiences of 30 people aged 45–64 with physical disabilities enrolled in MMC in a northeastern state. Participants identified several barriers to accessing appropriate care in MMC. For instance, 80% of respondents were no longer able to see their PCP after transitioning to MMC, which resulted in seeing doctors who were not knowledgeable about their impairments. A majority of respondents also reported that their MCO did not provide adequate access to specialists. Participants also struggled to obtain durable medical equipment, including wheelchairs, wheelchair services, and other equipment such as grab bars or raised toilet seats. Prescriptions were another issue for many participants who reported difficulty obtaining their medications. Lastly, although preventive care was provided by MCOs, respondents had difficulty accessing this care due to inaccessible medical facilities, transportation issues, and distance between participants' residences and the providers. Hiranandani noted that these barriers needed to be addressed in order to ensure MMC meets the unique needs of enrollees with physical disabilities.

Patient satisfaction is a complex construct and is often dependent on the type of service received and the care preferences of patients (Blendon, Kim, & Benson, 2001). In Bjertnaes, Sjetne, and Iversen's (2012) study of hospital patients, satisfaction was significantly associated with patient-reported experiences and the fulfillment of patient expectations. Although external barriers to care experienced by people with disabilities in MMC may affect enrollees' satisfaction with their health care (Bleich, Özaltın, & Murray, 2009; Coughlin, Long, & Kendall, 2002), research has demonstrated that the presence of certain provider characteristics may significantly impact patient satisfaction and health-care quality appraisals (Anderson, Barbara, & Feldman, 2007; Crow et al., 2002; Ha & Longnecker, 2010; Shapiro, Mosqueda, & Botros, 2003; Shirley & Sanders, 2013). For example, research by Jenkinson, Coulter, Bruster, Richards, and Chandola (2002) found that one of the major determinants of patient satisfaction was physician respect for patient preferences. The researchers suggested that detailed questions

pertaining to patients' experiences with their health-care providers are useful in improving health-care delivery and quality. Similarly, Bot et al. (2014) reported that shared decision-making between patients and providers that accounts for the preferences of a patient is significantly associated with greater patient satisfaction.

Provider knowledgeability and rapport with a patient may be obstructed during the transition to MMC when the relationship between a patient and their primary care provider is broken. Continuity of care can affect patient assessments of health care (Anderson et al., 2007; Säilä, Mattila, Kaila, Aalto, & Kaunonen, 2008; Shirley & Sanders, 2013), as observed in research by Flocke, Stange, and Zyzanski (1997) which measured health-care quality as a function of various interpersonal measures, including physician knowledge of the patient, coordination of care, and patients' preferences for provider choice. Individuals that experienced discontinuity of care reported significantly lower scores on all indicators of health-care quality. When taken into consideration with the findings from Hiranandani (2011) and Hall et al. (2015), there are opportunities to mediate and improve the experiences of persons with disabilities in MMC based on the determinants of satisfaction demonstrated in the literature. However, the current research on MMC is sparse and has not focused specifically on people who are aging and also have physical disabilities.

Method

Research Aims and Questions

This study examines health-care experiences and outcomes for adults (50 years old and over) with physical disabilities in Medicaid receiving managed care (MMC) versus FFS over the first 2 years of the program (data collected in 2014). The sample includes both people with disabilities who have aged and are 50 years old and over, or adults age 50 years or over who have developed a physical disability. The research questions are

- (a) Among adults aged 50 or over with physical disabilities, does enrollment in MMC versus FFS relate to enrollees' health services appraisal (HSA) and perceived unmet health-care needs?
- (b) Within MMC, which aspects of MMC health-care processes (continuity of care, PCP attitudes and knowledge, and attitudes of care coordinators) relate to HSA and perceived unmet health-care needs of adults aged 50 or over with physical disabilities?

Research Setting and Sampling

Starting in May 2011, a Midwestern state implemented a mandatory managed care program (administered by two large national for-profit insurance companies) for people with disabilities who were Medicaid beneficiaries. The program was initially piloted for 38,000 enrollees in the suburbs of a large metropolitan city. The comparison group consisted of 65,000 enrollees who were eligible for MMC but lived outside the pilot region in the large metropolitan city and who continued to receive benefits through FFS. In the initial stages of implementation, MMC only covered health-care services and in later years (2014) covered long-term supports and services (LTSS). Thus, this research only examined health care and not LTSS.

Participants were randomly selected from a sampling frame provided by the state of people eligible for and mandatorily enrolled in the MMC program in both groups. A total of 9,400 surveys were distributed (4,700 each to the MMC and comparison groups). Much of the contact information for these individuals was out of date and they could not be reached. A total of 1,636 surveys were completed out of a final sample of 6,292 surveys that had contact information, resulting in a response rate of 26%. Although this response rate is low, it is typical for the Medicaid population (Morales, Elliott, Weech-Maldonado, Spritzer, & Hays, 2001). Nine hundred sixty-five (59%) of those who completed the survey self-reported a physical disability through one of the survey demographic questions. Six hundred fifty-eight of them self-reported as 50 years old or more; these 658 people were the sample that we used for this research. We cannot determine the response rate to the survey specifically for people with physical disabilities and for those aged 50 years and over, because we could not identify demographic characteristics (including disability type and age) of people in the sample prior to sending the survey, so we do not know the final sample size of these populations. The sample of people who responded included 309 individuals in MMC and 349 in FFS who were at least 50 years old. Additional demographic information on the sample is found in the results.

Data Collection

The data used in this research come from a survey developed by the research team in conjunction with an advisory board that provided input on important questions for people with disabilities transitioning to MMC. This was primary data collection primarily conducted through the mail, although the survey could also be taken over the phone (with assistance from a staff

member, if requested) or online. Spanish translations were also made available. Participants were encouraged to receive assistance from a family member, friend, or personal support worker if needed to complete the survey. If the surveys were not returned within 1 month, the research team called and spoke to or left a message for each participant. Follow-up surveys were sent a second time if they were requested. To encourage comparison between the MMC and FFS groups, identical surveys were used, except for six additional questions on the MMC survey that focused on the transition to MMC. The survey was conducted between October 2013 and March 2014. Ethics approval for this research was obtained through the university institutional review board.

Measures

The survey included demographics, enrollment status, measures of HSA, and unmet health-care needs, and for MMC enrollees it included questions about various aspects of MMC.

Demographic variables included, age in years (continuous variable), gender (dichotomous variable, female or male), race (dichotomous variable, White or minority [respondents indicated Black, Hispanic, Asian, Native American, Pacific Islander, and/or Other]), and health status (Short Form Clinical Survey [SF-12]). SF-12 is a continuous variable measured on a scale from 0 (*worst health*) to 100 (*best health*), with 50 being the average overall score for the full population. The SF-12 has been evaluated in multiple studies of persons with disabilities, with mixed outcomes (Dunn et al., 2009; Nortvedt, Riise, Myhr, & Nyland, 2000). In the present study, it is only intended as a general control on health for people with disabilities rather than an outcome variable.

Enrollment status was a dichotomous variable coded as whether each respondent received FFS Medicaid (0) or MMC (1).

HSA is a composite, 6-item scale developed for the project and is adapted from questions asked in the Consumer Assessment of Healthcare Providers and Systems survey, which is widely used to assess MMC plans (Association for Community Affiliated Plans, 2013). The HSA investigates respondents' perceptions of health services quality and satisfaction: (a) satisfaction with PCP, (b) satisfaction with specialists, (c) satisfaction with the medical/specialist services received, (d) satisfaction with care coordinator, (e) overall quality of health-care services, and (f) overall satisfaction. These 6 items are scored on a 5-point Likert-type scale from *very dissatisfied* to *very satisfied* ($\alpha = .77$; test-retest reliability of $r = .768$ using 21 respondents who

completed a retest within 2 weeks). HSA uses the mean of these items and ranges from 1 to 5.

Unmet health-care needs consisted of unmet needs from a list of 18 health-care services to which the respondents reported whether they received, did not need, or had an unmet need for that service. The list was developed by the advisory committee and research team as 18 of the most common health-care services utilized by the Medicaid population. Each of these services was dichotomously coded (0 = *received or did not need service*, 1 = *unmet need for this service*) and added up for the total score.

MMC processes (for MMC group only) included several questions specifically targeting persons who had transitioned to MMC: continuity of care, experience with care coordinators, and experience with PCPs. Test–retests of the items were conducted with 23 enrollees, 14 days after the first survey; retest surveys were conducted over the telephone with the first 23 surveys that were returned. Continuity of care was based on a question that asked respondents whether they could see their same doctors after transitioning to MMC. Possible categorical responses included “Yes, I can still see all of them,” “Yes, I can still see some of them,” and “No, I have to see all new doctors.” Experience with care coordinators is a scale developed by the research team that consists of 3 items about how much input the enrollee had in their service plan (rated *none, some, a lot, or not applicable*); whether the care coordinator took the wishes of the enrollee into account, and how much knowledge the care coordinator had of the enrollee’s disability and health conditions (both rated *never, sometimes, usually, always, or not applicable*; $\alpha = .731$; $r = .878$). Experience with PCPs is a similar scale developed by the research team that also includes 3 items: whether the PCPs seemed up-to-date about the services the enrollee received from specialists (rated *never, sometimes, usually, always, or not applicable*); whether the PCP had knowledge to work with someone with the enrollee’s disability or health condition (rated *very knowledgeable, slightly knowledgeable, not at all knowledgeable, or not applicable*), and whether the PCP took the wishes of the enrollee into account (rated *never, sometimes, usually, always, or not applicable*; $\alpha = .676$; $r = .688$). Each experience scale is based on the mean of the items in the scale, so if a participant did not answer one of the questions, their score is based on the mean of the other items.

Analytic Approach

Descriptive analyses included frequencies of the number of people with unmet needs for each individual health-care service for people aged 50 or

more with physical disabilities enrolled in MMC and FFS, and χ^2 tests were used with each service to determine significant differences. The descriptive measures also included frequencies on the continuity of care variable as well as each individual item of the experience with care coordinators and experience with PCPs scales.

This research also used a series of χ^2 tests (for the dichotomous variables), a *t*-test (for the age of the respondents), and Mann–Whitney *U* tests (for the count of the number of unmet health-care needs and health status, which was not normally distributed) to determine significant differences between the demographics of MMC and FFS survey respondents.

Two regressions addressing the first research question included both MMC and FFS respondents. The independent variables in these models were age, gender, race, health status, and group status (enrollment in MMC/FFS). The first regression used ordinary least squares (OLS) linear regression in order to determine the impact of MMC and age on HSA (HSA was not normally distributed, so it was normalized using a log transformation). Gender, race, and overall status were used to control for differences between the MMC and FFS groups. The second regression used the same population and variables to determine the impact of MMC on the number of unmet health-care needs. This variable was also not normally distributed (it is a count of unmet health-care needs, with most of the respondents at the lower end of the range), so a Poisson regression with this model was used. Again, gender, race, and health status were used to control for differences between the groups.

The two regressions addressing the second research question included only MMC enrollees. The independent variables in these models were age, gender, race, health status, continuity of cares, experience with care coordinators, and experience with PCPs. The first regression used OLS in order to determine the impacts on HSA (HSA was not normally distributed, so it was normalized using a log transformation). The second regression used the same population and variables to determine the impact on the number of unmet health-care needs. This variable was also not normally distributed (it is a count of unmet health-care needs, with most of the respondents at the lower end of the range), and a Poisson regression with this model was used.

Results

Table 1 shows the sample demographics and compares the MMC and FFS respondents. MMC respondents were more likely to identify as White (vs. minority; 38.8% compared to 10.0% in FFS, $\chi^2 = 94.535$, $df = 1$, $p = .000$). Gender, overall health, age, and unmet health-care needs were not

Table 1. Respondent Demographics.

Demographic	MMC (n = 309)	FFS (n = 349)	Significance
Gender			
Male	106 (34.3%)	141 (40.6%)	$\chi^2 = 2.790; df = 1;$ $p = .095$
Female	203 (65.7%)	206 (59.4%)	
Race			
White	120 (38.8%)	35 (10.0%)	$\chi^2 = 75.524; df = 1;$ $p = .000^{**}$
Health status	Mean = 23.61; SD = 6.10	Mean = 24.47; SD = 6.30	$p = .082$
Age	Mean = 60.11; SD = 7.75	Mean = 59.05; SD = 6.38	$t = -4.915; df = 656;$ $p = .056$

Note. n = 658. MMC = Medicaid managed care; FFS = fee for service.

*p < .05. **p < .01.

Table 2. Health Services Appraisal and Unmet Needs Regressions for Aging People With Physical Disabilities (MMC and FFS).

Variable	OLS Regression: HSA		Poisson Regression: Unmet Needs		
	Beta	Significance	Exp(Beta)	95% Confidence Interval	Significance
Age	.001	.556	.987	[0.973, 1.001]	.061
Gender (female vs. male)	.003	.871	.947	[0.756, 1.187]	.636
Race (minority vs. White)	.033	.190	1.272	[0.99, 1.636]	.060
Health status	.006	.000**	0.959	[0.943, 0.974]	.000**
Enrollment in MMC	.027	.215	1.077	[0.857, 1.352]	.525
R ²		.023			

Note. HSA = health services appraisal; MMC = Medicaid managed care; FFS = fee for service.

*p < .05. **p < .01

significantly different between MMC and FFS. The majority of the respondents in MMC were non-White (61.2%) and female (65.7%). The average age was 60.11 years ($SD = 7.75$).

Table 2 shows the regression results for HSA and unmet health-care needs. Health status was a significant factor for both outcomes: respondents with a higher overall health status had higher HSA ($p < .000$) and a lower

Table 3. Unmet Needs for Health-Care Services for 50+.

Category Items	MMC (n = 309)	FFS (n = 349)	p Value
Dental	121 (39.2%)	158 (45.3%)	.113
Physical therapy	63 (20.4%)	72 (20.6%)	.939
Dietician*	53 (17.2%)	83 (23.8%)	.036*
Podiatrist	47 (15.2%)	69 (19.8%)	.126
Home health service*	34 (11.0%)	60 (17.2%)	.024*
Occupational therapy*	32 (10.4%)	55 (15.8%)	.041*
Skin doctor	30 (9.7%)	33 (9.5%)	.912
Allergist	29 (9.4%)	28 (8.0%)	.535
Neurologist	28 (9.1%)	32 (9.2%)	.962
Psychiatrist	27 (8.7%)	21 (6.0%)	.180
Cardiologist	26 (8.4%)	20 (5.7%)	.178
Psychologist	24 (7.8%)	20 (5.7%)	.297
Behavioral health counseling	22 (7.1%)	37 (10.6%)	.119
Surgeon	13 (4.2%)	13 (3.7%)	.751
Speech therapy	11 (3.6%)	21 (6.0%)	.144
Nonresidential substance abuse treatment	11 (3.6%)	20 (5.7%)	.190
Oncologist	9 (2.9%)	15 (4.3%)	.344
Residential substance abuse treatment	8 (2.6%)	14 (4.0%)	.311

Note. MMC = Medicaid managed care; FFS = fee for service.

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

number of unmet health-care needs ($p < .000$). Age, gender, being White, and MMC enrollment were not significantly associated with HSA or unmet health-care needs.

Table 3 contains unmet needs for specific health-care services for people enrolled in MMC. The most common unmet need was for dental services (39.2%) followed by physical therapy (20.4%), dietitian services (17.2%), and podiatry (15.2%); 11% of the sample had an unmet need for home health services and 10.4% had unmet needs for occupational therapy. The other services were unmet by less than 10% of the sample. For the majority of these services, a greater proportion of people in FFS reported an unmet need than people in MMC. For three of these services (dietitian, home health services, and occupational therapy) respondents reported a significantly higher proportion of unmet needs in FFS.

With regard to managed care processes, respondents enrolled in MMC gave the following answers concerning continuity of care, and experience with care coordinators and with PCPs. For the question regarding continuity of care, 41.5% of respondents reported that they could still see all of the same

Table 4. Health Services Appraisal Regressions for Aging People With Physical Disabilities (Medicaid Managed Care Only).

Variable	HSA	
	β	Significance
Age	.002	.395
Gender (female vs. male)	.017	.548
Race (minority vs. White)	.018	.536
Health status	.009	.001**
Continuity of care ^a	.056	.001**
Experience with care coordinators	.031	.000**
Experience with PCPs	.021	.020*
R ²		.218

Note. HSA = health services appraisal; PCPs = primary care physicians.

^aContinuity of care is negatively coded.

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

doctors since enrolling in MMC; 26.6% reported that they could still see some of the same doctors, and 31.9% reported that they see completely different doctors since they enrolled in MMC. Among respondents to questions about their care coordinator experiences, 36.97% noted that the care coordinator always had knowledge of their medical history, while 28.3% responded *usually*, 34.8% reported *sometimes*, and 18.2% reported that the care coordinator *never* had knowledge of their medical history. Responses to questions about degree of input in their services plans included 30.8% reporting that they had *a lot* of input, 39.6% that they had *some* input, and 29.6% reporting not having any input. In regard to the question about whether the care coordinator took the enrollee’s wishes into account, 40.8% responded *always*, 23.6% responded *usually*, 17.3% reported *sometimes*, and 18.3% reported *never*.

Among responses to questions regarding experience with PCPs, 70.0% reported that their PCP was *very* knowledgeable, 25.7% that their PCP was *slightly* knowledgeable, and only 4.3% reported that their PCP was *not at all* knowledgeable. As to the extent that the PCP took their wishes into account, 47.0% responded *always*, 28.0% responded *usually*, 15.1% reported *sometimes*, and 10.0% reported that their wishes were *never* taken into account by their PCP. In regard to the extent that PCPs were informed and up-to-date about the care received from specialists, 49.1% answered *always*, 25.1% answered *usually*, 17.2% answered *sometimes*, and 8.6% answered *never*.

Table 4 shows the regression results for HSA for MMC enrollees. Several variables were significantly associated with HSA: health status (respondents

Table 5. Poisson Regression: Unmet Health-Care Needs of Aging People With Physical Disabilities (Medicaid Managed Care Only).

Variable	Unmet Health-Care Needs		
	Exp(β)	95% Confidence Interval	Significance
Age	0.973	[0.944, 1.002]	.070
Gender (female vs. male)	1.185	[0.832, 1.688]	.347
White (minority vs. White)	1.644	[1.164, 2.320]	.005**
Health status	0.948	[0.922, 0.974]	.000**
Continuity of care ^a	1.167	[0.937, 1.453]	.167
Experience with care coordinators	0.937	[0.880, 0.999]	.046*
Experience with PCPs	0.905	[0.810, 1.010]	.075

Note. PCPs = primary care physicians.

^aContinuity of care is negatively coded.

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

with better health had higher HSA, $p = .001$), continuity of care (those who could see more of the same doctors had a higher HSA, $p = .001$), experience with care coordinators (people with more positive experiences had higher levels of appraisal, $p < .000$), and experience with PCPs (people with more positive experiences had higher levels of appraisal, $p = .020$). Age, gender, and minority status were not significantly associated with HSA.

Table 5 shows the results of the Poisson regression for the number of unmet health-care needs enrolled in MMC. Significant factors were minority status (people who were minorities had more unmet health-care needs than people who were White, $p = .005$), health status (people who self-reported better health had fewer unmet health-care needs, $p < .000$), and experience with care coordinators (people with more positive experiences had fewer unmet health-care needs, $p = .046$). Age, gender, continuity of care, and experience with PCPs were not significantly related to the number of unmet health-care needs.

Discussion

The present study found that among adults with physical disabilities who are 50 years old or over the transition from Medicaid FFS into MMC is not significantly associated with differences in individuals' HSA or perceived unmet health-care needs. Rather, the key variable affecting individuals' appraisals is their health status; adults over 50 with physical disabilities that have worse health are more critical of their health services and have more

unmet needs. Individuals with worse health, who are more likely to be designated as high risk by MCOs, might be expected to receive better and more coordinated care under managed care than under FFS. We conducted ad hoc analyses to assess whether health status interacted with MMC status for both HSA and for unmet needs and neither were significant.

To better understand factors related to improved health-care appraisal and quality, the present study examined the aspects of care that are associated with better consumer appraisals within MMC. Enrollees reported significantly higher health-care appraisal when they had better continuity of care, and better experiences with care coordinators and PCPs. Continuity of care referred to being able to continue with the same physicians or having to see new doctors following the transition to MMC. The finding on the importance of continuity of care is in line with a previous study of adults with physical disabilities (Hiranandani, 2011) that found that continuity of care is a key aspect relating to HSA. As highlighted by our advisory board and during stakeholder meetings held by the state, prior to implementation of the managed care program, many of the consumers were very worried about being able to continue with their same doctors. While the MCOs allowed single care arrangements for up to 6 months, some health-care professionals did not sign up with the MCOs and some no longer wanted to continue treating their Medicaid patients. Also after the transition period, some physicians still had not signed up to the network. Nearly one third of the MMC enrollees in the present study reported not being able to see any of the same doctors after transition to MMC from FFS.

The consumers' experiences with both care coordinators and PCPs are important in determining their health-care appraisal. This includes both the extent to which the enrollees' wishes are taken into account and the extent of the knowledge of the professionals regarding patient medical conditions and disability. As individuals make changes in their health care they are challenged to find health professionals and care coordinators that are knowledgeable about disabilities, including age-related conditions that might affect people who are aging differently (Factor, Heller, & Janicki, 2012). Adults with physical disabilities may experience earlier age-related conditions and chronic conditions at earlier ages (Kemp & Mosqueda, 2004; Molton et al., 2014). Hence, PCPs need to have knowledge about these conditions, which they may not have obtained in their training. In addition to knowledge about disability, the extent that PCPs and care coordinators acknowledge the wishes of aging adults with physical disabilities is important in consumer health-care appraisal. This finding concurs with research on consideration of patient wishes in health care in the general population (e.g., Bot et al., 2014;

Jenkinson, Coulter, Bruster, Richards, & Chandola, 2002). This aspect of PCPs and care coordinator may be particularly salient for adults aging with physical disabilities. Many adults with physical disabilities have noted that their wishes are often not addressed by health professionals and that they experience barriers when communicating with their health providers (McDoom, Koppelman, & Drainoni, 2014).

While the analyses did not show that enrollment in MMC versus FFS impacted the overall number of unmet needs, adults with physical disabilities who were aged 50 years and over had more unmet needs for dietitian, home health, and occupational therapy services in FFS. It is important to look not only at the total number of unmet needs but at the unmet needs of each service individually. MMC did a better job of meeting the needs of enrollees for dietitian, home health, and patient therapy services. Medicaid delivery systems need to be aware of services that are frequently unmet so that they can dedicate resources to building capacity to provide the services. Key areas of unmet needs reported by the adults with physical disabilities who are 50 years old or over in the present study included dental care, reported by nearly 40%, followed by physical therapy, dietitians, and podiatry. All but one of these services were reduced for Medicaid participants in legislation in the state where the study was conducted, as a measure to reduce Medicaid expenses. The present study showed that these are important services desired and needed by aging adults with physical disabilities.

Among enrollees in MMC, the present study found that people who did not identify as White experienced greater health-care disparities. This finding is in line with other research that has found that racial and ethnic minority groups often experience health inequalities (Gilbert et al., 2016; Phelan, Link, & Tehranifar, 2010; Weinick, Zuvekas, & Cohen, 2000). Racial disparities were present in both suburban MMC and urban FFS regions of the study, which emphasize the need to give special attention to racial and ethnic minorities to ensure that their needs are met and that they have the supports necessary to access health-care equitably to Whites.

Implications

These findings highlight the importance of understanding the aspects of the managed care experience that impact the health-care appraisals and perceived unmet health-care needs of adults with physical disabilities who are 50 years old or over. One implication of the important role of continuity of care in affecting MMC HSA is that managed care companies make sure that they have an adequate provider network prior to reaching out to this

population. Second, they should consider longer mandatory continuity of care periods.

In addition to continuity of care, it is important for adults with disabilities to receive care from health-care professionals who are knowledgeable about their medical conditions and about their specific disability. Many of these adults experience multiple chronic conditions that may be experienced earlier than those experienced by the general population, or they may have different patterns of health conditions as a result of their disability (Kemp & Mosqueda, 2004). Hence, it is essential as people transition to managed care that care coordinators receive training on key issues related to health care for this population. Similarly, it is important that people with disabilities are able to see PCPs and specialists that are knowledgeable about their particular disabilities.

Finally, a key component of health-care delivery for people with disabilities is the need to take into account the wishes of these consumers in developing their care plans and in delivering health-care services. Too often their opinions are not sufficiently addressed with respect, as there may be communication barriers on the part of both the person with a disability and the health-care professional or care coordinator. An example of training in providing health care for people with disabilities targeted to MCOs, health-care professionals, community organizations, advocates, and people with disabilities, is the series titled “Accessible Health Care” (Kailes & Mac Donald, 2004).

Limitations and Future Research

There are several limitations to this research. A major challenge in obtaining the perspective of people with disabilities is increasing the response rate. The response rate in this study was 26%, even after excluding undeliverable mailing addresses, which is low but in line with other studies of the Medicaid population. This population is difficult to reach because even when the state has a valid mailing address, people with disabilities receiving Medicaid are likely to move so the state may not have the most current information (Varney, 2015). This project followed many techniques to obtain even this response rate, including providing gift cards, follow-up phone calls, and online and Spanish-language options. Future research needs to expand techniques for reaching a greater proportion of these individuals.

The present study was only conducted in one state and locale and included MCOs that were large for-profit organizations, which limits generalizability to other locales and states. For example, in many locales not-for-profit

organizations are serving as managed care entities. However, focus on one state is often necessary because implementation of MMC is different across the states. It is often necessary to look at implementation of one MMC program in order to learn lessons that may help other states. Future research should focus on differential impacts on people with a physical disability who are 50 years old or over within different models of managed care and its effectiveness across many different locales. For instance, this study only included for-profit MCOs, and it would be interesting to compare these results with results from MMC operated by not-for-profit entities.

A major contribution of this study is developing measures to assess the consumer experience for people with disabilities who are 50 years old or over. These tools could be used to help monitor and evaluate the impact of managed health care on adults with disabilities.

Conclusion

As the number of people with physical disabilities who are 50 years old or over continues to grow, it will become increasingly important to consider their experiences as they transition to MMC. Particular attention needs to focus on providing continuity of health care during the transition and to the experiences of people with disabilities with their care coordinators and PCPs. People with physical disabilities who are 50 years old or over generally have high unmet needs that should be addressed to support them aging well. Addressing these unmet needs is crucial in improving the MMC system, particularly for aging adults with physical disabilities.

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