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Medicare Managed Care Penetration and Prevalence of Older Adult Disability

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Abstract

OBJECTIVE: To investigate the relationship between Medicare Managed Care (MMC) penetration and percentage of disability in older adults (individuals age 65 and older). Considering disability as an indicator of one or more unsuccessfully managed chronic diseases, this study investigates the assumption that managed care improves coordination of care, as well as access to preventive care. If managed care's mandate is being met, then it should be evidenced in decreased prevalence of older adult disability.

METHOD: Taking an ecological approach, this study used data from the Agency for Healthcare Research and Quality (AHRQ, 2003) to compare the percentage of older adult disability in counties from 30 states and the District of Columbia with high and low MMC penetration. Covariates representing various aspects of community context were introduced into a final multivariate linear regression to examine whether MMC penetration was a significant predictor of countywide percent of older adult disability.

RESULTS: While MMC penetration was a significant predictor of prevalence of older adult disability in a bivariate analysis (r=-0.197, p ≤ .001), it lost its significance in the final multivariate model.

CONCLUSION: While this study does not demonstrate a relationship between MMC penetration and prevalence of older adult disability, it is possible that MMC, once fully implemented under the 2003 Medicare Prescription Drug, Improvement, and Modernization Act, could lead to reduced prevalence of disability.

Introduction

By 2030, one in five Americans will be eligible for Medicare.[1] Medicare cost the US 3.1% of its GDP in 2007 and is projected to cost 7.3% in 2035, making it one of the largest and most expensive government programs.[2] Policymakers during the Reagan Administration implemented managed care in response to two challenges facing the US healthcare system: (1) increasing medical costs and (2) lack of coordination among providers.[3] In theory, managed care was a cost-reduction measure aimed at increasing the efficiency of Medicare while improving service delivery and not compromising quality of care.[3] Medicare Managed Care (MMC) plans, implemented by private insurance companies, are responsible for offering all the benefits of original Medicare through Health Maintenance Organizations (HMOs) and Preferred Provider Organizations (PPOs). Beneficiaries have the option of electing MMC rather than the original Medicare package with the incentive of lower copayments and additional benefits, such as drug coverage, check-ups, vision care, and hearing aids. Lower copayments are possible because of reduced utilization, competition among managed care organizations, as well as favorable selection of lower risk enrollees.[4]

Early MMC evaluation did not show overwhelming evidence for either the program's success or failure. A meta-analysis conducted by Miller and Luft (1997) examined pre-1992 studies of HMO plan participation and quality of care.[5] They did not find evidence to suggest that HMO plan participation uniformly led to worse quality of care. Miller and Luft also found that Medicare Managed Care had not been fully implemented by 1992 because of slow clinical practice change, lack of risk-adjusted capitation rates, and inadequate quality measurement and reporting.[5] They caution that the program may have been too young to have demonstrated success.

It may be difficult for elderly individuals and their families to be patient while a program matures. The most powerful early criticisms of MMC made the fledgling program appear diametrically opposed to its original mandate of cost-effective coordinated care. Cassel, Besdine, and Siegel (1999) said in their evaluation of Medicare that individual coverage has not kept pace with new medical technologies and their cost.[6] Rather than coordinating chronic disease management with long-term care facilities, "today's financing policies encourage fragmentation and cost-shifting."[6(p 119)] Incentives are not for preventive care but rather acute care. [6] Plan exclusions force families to seek supplemental insurance that is costly, especially for lower-to-middle income households.[6] Cassel, Besdine, and Siegel pointed out that since Medicare's inception, "our knowledge base in geriatric medicine has expanded dramatically." [6(p 119)] In order for Medicare to achieve its mandate, it must incentivize continuity of care, early intervention, health promotion and disease prevention, and care management, and cost-savings must extend to beneficiaries.[6] Managed care, in theory, could provide a shift from acute to preventive care.

From the 1980s until the early 1990s, MMC enrollment increased rapidly and reached its peak of 6.3 million (16%) beneficiaries in 2000.[8] From 1994 to 1996, the percentage of rural counties in the service area of at least one HMO jumped more than 20%.[8] Because of plan withdrawals from some areas, reduced benefits, and higher premiums, enrollment declined from 2000 to 2003.[8] Since 1999, Administrative requirements and low Medicare reimbursement rates have led to a steady drop in the number of HMOs and private health plans participating in MMC.[7] Despite the introduction of managed care, Medicare remained costly and inefficient, which prompted legislative action. In 2003, the Medicare Prescription Drug, Improvement, and

Modernization Act increased payments to managed care plans.[9] Managed care, along with fee-for-service, now appears as a plan option called Medicare Advantage. Enrollment rates in managed care rebounded.[8] In 2008, of the 44.2 million Americans eligible for Medicare, 8.7 million (19.7%) were enrolled in managed care.[8]

Risk factors for chronic illness and subsequent illness are well-documented among individuals with no insurance, including lack of access to preventive services, delay in seeking medical care, and poor health status.[10] The majority of near-elderly individuals (age 55 to 64) that is uninsured is African-American or Hispanic, with less than a high school education, and is self-employed or unemployed with income of less than $15,000 a year.[10] These individuals, when they become eligible for Medicare, are statistically more likely to have poorer health status.[10] Much of the controversy about managed care lies in whether it promotes or inhibits access to preventive care. The most dangerous claim against it is that it leaves older adults in our community underinsured for preventive services. However, HMOs must be concerned about the bottom line, and extending coverage for preventive services (e.g., routine screening, and providing incentives for healthy behaviors) could pay off in reduced incidence of chronic disease. Managed Care Organizations, therefore, have a financial incentive to prevent chronic illness in their beneficiaries.

About 75% of all US health expenditures are for the treatment of chronic conditions, and 50% of all chronically ill individuals have multiple chronic conditions.[11] The average per capita Medicare expenditure of $211 for a recipient without a chronic condition explodes to $13,973 for those with four or more.[11] Older adults who are healthy, self-sufficient, and able to remain living independently in their own homes are

less of a financial burden on government-funded health care.[12] A study by Fried, et al. in 1989 found that older persons who had stable functional dependence (self-reported as needing assistance with one or none of seven basic Activities of Daily Living, or ADLs: bathing, dressing, transferring, walking, eating, toileting, and grooming) or who declined to dependence (self-reported as needing assistance with all seven) had an excess of approximately $10,000 in health care expenditures in two years compared with those who remained independent.[12]

Some Medicare beneficiaries have a higher risk of chronic disease and/or hospitalization. Older adults with one chronic condition are at increased risk for a co-morbid condition.[11] According to the Kaiser Family Foundation, in 2006, 38% of Medicare recipients had three or more chronic conditions.[13] A study by Hill, et al. showed that for the ten most prevalent co-morbid conditions among those with Alzheimer's disease and related dementia (ADRD), adjusted costs were higher for ADRD managed care beneficiaries than controls with only the non-ADRD condition.[14] Preventing co-morbidities is also important in adults with low levels of literacy. In 2002, the National Adult Literacy Survey indicated that 44% of adults age 65 and older were functionally illiterate.[15] The Kaiser Family Foundation's 2006 findings that a little more than a quarter of Medicare recipients had less than a high school education and 48% had an income below 200% of the federal poverty line are documented risk factors for lower health literacy.[13, 15] A study by Baker, et al. found that the risk of hospital admission among those with inadequate literacy was 29% higher than those with adequate literacy.[15] Racial disparities in quality of care also exist among Medicare Managed Care beneficiaries. A study by Schneider, Zaslavsky, and Epstein found significant racial disparities in three measures of quality of care, including eye examinations for patients

with diabetes, beta-blocker use after myocardial infarction, and follow-up after hospitalization for mental illness.[10]

This study took an ecological approach to evaluate whether MMC penetration could be associated with lower rates of disability among non-institutionalized older adults. Using the geographical and political unit of county as the unit of analysis, it compared counties that have a high penetration of elderly individuals enrolled in MMC to counties that have a low penetration. The disability rate in those 65 and older was used here as an indicator of at least one unsuccessfully managed chronic disease. Indicators of poverty and other risk factors that are likely to complicate this picture are treated as covariates. If MMC is fulfilling its mandate to improve access to preventive services, coordinate care, and reduce cost while improving health outcomes, then counties with greater Medicare Managed Care penetration should be characterized by lower prevalence of disability among older Americans. A conceptual model of the final multivariate linear regression is illustrated in Figure 1.

Method

Participant counties

To fulfill the recommendation of the Institute of Medicine, the US Department of Health and Human Services and the Agency for Healthcare Research and Quality (AHRQ) began a joint safety net monitoring initiative. Data used in this study come from Book 2: Data for States and Counties (AHRQ, 2003), which uses primarily 2000 US Census data. The ecological units in this study are 2,032 counties and metropolitan areas from 30 states, and the District of Columbia. These sentinel states represent 75% of the total US population.

Measures

Older adult. The percentage of those aged 65 and older in the 2000 US Census (hereafter an age category referred to as "older adult") was a continuous variable. The cutoff reflects age of Medicare eligibility.

MMC enrollment prevalence. Using the 2001 Area Resource File, MMC enrollment prevalence was defined in this study as prevalent (>10% of Medicare beneficiaries enrolled in managed care) or non-prevalent (0-10% of Medicare beneficiaries enrolled in managed care). This dichotomization was necessary because MMC enrollment prevalence was not normally distributed, with 81.2% of counties having an MMC prevalence of less than or equal to 10%.

Older adult disability. Disability in the older adult population was defined as the number of older adults reporting a disability in a county, divided by the number of civilian non-institutionalized older adults in the county for whom disability status is reported in the 2000 US Census. Percentage disability in older adults was a continuous variable.

Urbanicity. Using data from the 2003 Office of Management and Budget (OMB) definitions of metropolitan and nonmetropolitan counties, the Rural-Urban Continuum Codes and the Urban Influence Codes classifications developed by the Economic Research Service of the U.S. Department of Agriculture, and the county-level data on several variables from Census 2000 and 2004 postcensal population estimates, the National Center for Health Statistics (NCHS) defines six levels of urban-rural classification, which are publicly available and used in this study:

- 1 = large central metro
- 2 = large fringe metro

- 3 = medium metro

- 4 = small metro

- 5 = micropolitan or nonmetro

- 6 = noncore or nonmetro

Public and non-profit hospital admissions. From the 1999 American Hospital Association Survey, non-investor owned hospital admissions was defined as the number of admissions to public and non-profit hospitals, divided by the total number of admissions to all area hospitals. Percentage public and non-profit hospital admissions was a continuous variable.

Predominantly white county. More than 55.3% of counties were more than 90% white. Thus, the percentage of individuals reporting their race as white in the 2000 US Census was dichotomized: those counties 91-100% white were classified as predominantly white and those 90% or less white were not.

Poverty. Poverty was defined as the percentage of the total population with incomes below 100% of the federal poverty line, from the 2000 US Census. Percentage poverty was a continuous variable.

Educational attainment. Number of individuals age 25 years and older with a high school degree (or equivalent) or less, divided by the total population age 25 years and older reporting educational attainment in the 2000 US Census. Percentage population with a high school degree or less was a continuous variable.

Living alone. According to the US Census, the number of people age 65 and older living alone divided by the total population age 65 and older. Percentage older adults living alone was a continuous variable.

Fluency in English. According to the US Census, the number of individuals age five and older who report speaking English less than very well, divided by the total population age five and older who reported language spoken at home. Percentage population that speaks English less than very well was a continuous variable.

Procedure

Book 2: Data for States and Counties and the NCHS Urban-Rural Classification Scheme for Counties were publicly available and downloaded from the Internet. All variables except for urbanicity came from AHRQ's Book 2 (2003). Urbanicity was defined using the NCHS classification scheme. The files were merged using Microsoft Excel. All analyses were performed using SAS 9.1.

Analysis

There were numerous community context variables in the primary dataset that could be regarded as potential confounders; they were grouped into the following categories: urbanicity, healthcare infrastructure, demographics, poverty, education, and social support. Descriptive frequency analyses were conducted and the distributions of variables were examined visually for normality. Those variables that were not normally distributed were dichotomized. These variables included MMC enrollment prevalence and predominantly (91-100%) white.

A bivariate regression analysis was conducted to determine which predictor variables were significantly associated with older adult disability. Community context variables found to be significant predictors were then correlated with each other to identify those that were multicolinear or highly inter-correlated ($r \leq 0.60$). In each highly

inter-correlated pair or set of independent variables, the member with the most normal distribution was included in subsequent adjusted analyses.

Finally, the outcome of interest (disability in older adults) was modeled in a multivariate linear regression in which the main predictor variable was MMC enrollment prevalence and community context variables identified as confounders were included in the model. Two-way interactions among significant predictors were tested.

Results

Descriptive Statistics

The descriptive statistics for the participant counties are presented in Table 1. Over half (60.8%) of the 2,032 counties are non-metro, either micropolitan or non-core. One quarter are large central or fringe metros. Nearly half (46.2%) of counties in this sample are predominantly (91-100%) white. Only 3.1% speak English less than very well at home (SE=0.10, 95% CI: (2.9, 3.3)). On average, just over 90% of all county admissions are to public and non-profit hospitals (SE=0.67, 95% CI: (89.8, 92.4)). The countywide average percent of the total population living below poverty is 12.7% (SE=0.12, 95% CI: (12.5, 13.0)). On average, over half (56%) of the population of each county has only a high school education or less (SE = 0.27, 95% CI: (55.5, 56.5)). Almost 15% of the population, on average, is aged 65 and older (SE = 0.10, 95% CI: (14.6, 15.0)). Of those 65 and older, on average 28.5% live alone (SE: 0.08, 95% CI: (28.3, 28.6)), 6.1% are enrolled in Medicare Managed Care (SE: 0.25, 95% CI: (5.6, 6.6)), and 43.4% have at least one disability (SE=0.16, 95% CI: (43.1, 43.7)).

Bivariate Analysis

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Using the Proc Corr analysis to obtain preliminary, unadjusted correlations, MMC enrollment prevalence was found to be negatively associated with older adult disability (r=-0.197, p ≤ .001). All of the community context variables were found to be significantly correlated with older adult disability. Of the community context variables, predominantly (91-100%) white (r=-0.249, p ≤ .001) was negatively associated with older adult disability, as was percentage admissions to public or non-profit hospitals (r=-0.242, p ≤ .001), percentage population ages 65 and older (r= -0.116, p ≤ .001), and percentage population that speaks English less than very well (r=-0.079, p ≤ .001). Urbanicity (r=0.149, p ≤ .001), percentage population living below poverty (r=0.656, p ≤ .001), percentage population with a high school education or less (r=0.619, p ≤ .001), and percentage population ages 65 and older living alone (r=0.254, p ≤ .001) were positively associated with older adult disability. The results of this unadjusted analysis are documented in Table 2.

A correlation of the community context variables verified that none that was significantly associated with older adult disability was correlated 60% or more with any other variable. The Pearson correlations between the community context variables are illustrated in Table 3.

Multivariate Analysis

The relationship between MMC prevalence and older adult disability is described by this significant linear model ($F_{9, 1411}$ = 278.65, p < 0.0001). This model accounts for 63.8% of the variance in disability among older adults. See Table 4 for estimated parameters. Interaction terms between each of the eight community context variables and MMC enrollment prevalence were introduced into the model, and all but the

interactions with percentage admissions to public or non-profit hospitals and with percentage population with a high school education or less were not significant. When only these two significant interaction terms were included in the model, they lost their significance and were omitted from the final analysis.

Discussion

Summary

Holding several potential confounders statistically constant, the final model for predicting older adult disability by county found MMC enrollment prevalence is not a significant predictor of older adult disability. While MMC enrollment prevalence was significantly associated with older adult disability in the unadjusted analysis, the relationship lost its significance with the introduction of community context variables into the model.

The model demonstrated that predominantly white counties have significantly lower percentages of older adult disability, as do more rural counties and counties with a higher percentage of the population that speaks English less than very well. In addition, there was a statistically significant but very weak protective effect of higher countywide percentages of public or non-profit hospital admissions and older adult disability. Disability among non-institutionalized adults tended to be higher in counties with higher percentages of the population living below poverty, having less than a college education, and living alone.

Strengths

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The strengths of this study included the source and quality of its data and its ecological approach. The US Department of Health and Human Services and the Agency for Healthcare Research and Quality produced this dataset to fulfill a requirement of their joint healthcare safety net monitoring initiative. The data represent 75% of the US population. All community context variables included in the final model are well-documented risk factors for disability associated with chronic disease. The results of this study may also be relevant to policy. The reinvestment of resources in managed care after the 2003 Medicare Prescription Drug, Improvement, and Modernization Act will be evaluated on a variety of markers of success, one of which should be decreased prevalence of older adult disability.

Limitations

Although the data used in this study are comprised of information on counties in which 75% of the US population resides, they include only 30 states and the District of Columbia. The 2000 US Census reported that West Virginia, absent from this study, had not only the highest non-age specific rate of disability in the US, but also the highest median age.[16] While states with national record low rates of disability from the West and Midwest were included in this study (Minnesota and Utah, for instance), Kentucky, Mississippi, and Alabama were not included in this sample.[16] These Southern states are among the highest in non-age specific rates of disability, ranging from 23.2% to 23.7%.[16]

The data were collected in 2000, before the 2003 restructuring of Medicare, and their current validity is unknown. At the time these data were collected, MMC penetration was relatively low, with 81.2% of counties having an MMC prevalence of less than or equal to 10 percent. Current enrollment information indicates that more

Medicare beneficiaries may be enrolled in managed care today than ever before.[7] Since the main predictor variable, MMC enrollment prevalence, was so skewed in distribution, it was dichotomized and some important information may have been lost.

Disability was not further stratified into type, as reported by the US Census. These subgroups include self-care disability, mental disability, sensory disability, difficulty going outside, and physical disability. The data do not distinguish between rates of disability among those 65 and older who have had a lifelong disability (such as blindness or paralysis) and disability among those 65 and older as a result of chronic disease (such as diabetes or cardiovascular disease), the latter of which is the outcome of interest in this study. The data only include non-institutionalized older adults, and the prevalence of disability in institutionalized adults is comparably high. This study cannot be generalized to that population. However, most institutionalized adults are covered by Medicaid, since Medicare benefits for long-term care facilities are extremely limited.

In this ecological study, it is not possible to establish a causal relationship between MMC enrollment prevalence and decreased prevalence of disability. There is no baseline data on the health of individuals before their MMC enrollment in order to detect subsequent improvement or deterioration in health status. Furthermore, since MMC is elective, it is impossible to know from the data set used here whether there is differential health status among those who choose to enroll in managed care plans and those who do not. Moreover, managed care organizations preferentially enroll low risk candidates. Therefore, the degree to which the pools of MMC enrollees and older adults with disabilities overlap is unknown. The data also do not indicate whether any of the managed care enrollees have supplemental insurance from a private provider,

although this may be particularly true among more highly educated and affluent Medicare beneficiaries.

Future research

Future research should reassess managed care under the 2003 restructuring. Increased, and perhaps more normally distributed, MMC penetration rates will provide for better analysis. In response to an important limitation of this study, future research could also evaluate differential health status among MMC and original Medicare enrollees, especially upon entry into the system (age 65). Building on the premise of this study, further research could also evaluate differential health status among MMC enrollees and MMC enrollees with supplemental insurance. As the older adult population continues to grow and its demographics change, particularly the proportion of older adults with higher levels of education and income,[17] several health indices may improve regardless of managed care's effectiveness. However, an investigation such as this controlling for community context variables could assess the effectiveness of MMC on a variety of health indices even in a changing population.

Conclusions

The results of this ecological study showed that MMC penetration is not a significant indicator of a county's percentage of disability among non-institutionalized adults. This may be interpreted as MMC having no appreciable impact on the prevalence of disability among Medicare-eligible adults, but there are several possible explanations for this finding. It is possible that managed care represents a savings for Medicare-eligible Americans in good health, but not for those who are more medically-complex. Managed care organizations that preferentially select lower risk candidates

for enrollment may also exclude some of the most medically-complex from their beneficiaries. Some affluent and well-educated elderly people with serious illnesses may find it more advantageous to supplement standard Medicare with private supplemental insurance. Any of these three scenarios present the possibility that the majority of Medicare-eligible adults with disabilities are not enrolled in managed care, or at least not exclusively.

Since this study was conducted using data before the 2003 restructuring of Medicare, managed care participation and enrollment rates were at an historic low.[7] The spirit of the 2003 legislation was to reinvest in managed care, recognizing that there are also serious repercussions for allowing this system to fail. It may have been premature to evaluate the program using disability as a health index, since the managed care payment reform had not been fully implemented. Without knowing baseline disability rates upon entry into Medicare at age 65, it is also not possible to know how much older adult disability can be attributed to no or inadequate insurance when they were near-elderly or to chronic conditions that they contracted before entering the system.[18]

According to an editorial by Dr. James Fries, "the health of seniors is one of the greatest medical problems facing developed nations and is one of the largest single economic burdens."[17(p 3165)] He theorized that "a decline in any disability of 1.5% per year would ensure the long-term solvency of the Medicare and Social Security programs." [17(p 3164)] In order to achieve this reduction, he suggested that Medicare invest more resources in chronic disease prevention.[17] Today compensation rates remain low for preventive services, which is an important disincentive for healthcare providers.

Investing in preventive services offers a great return on quality of life. While delaying the onset of chronic disease does not have a substantial impact on life expectancy, it does dramatically reduce morbidity.[17] Since 2001, Senators and Congressmen have introduced Healthy Senior bills in an effort to make health promotion an enumerated Medicare benefit.

In 2003, the American Geriatrics Society published a Medicare Managed Care position statement. Their recommendations including the following:

1. Screen for high risk enrollees, coordinate their care, and involve them in preventive interventions to improve clinical and financial outcomes.

2. Monitor the quality of outpatient care and coordination of care.

3. Capitation rates should be reflective of health status. Inadequate compensation is a disincentive for plans to enroll frail or medically-complex beneficiaries or to offer services that might encourage such individuals to enroll.[19]

Investing in health promotion as the American Geriatric Society recommended in 2003 may improve the cost-efficiency of MMC and the quality of life in an aging American population, finally fulfilling the promise of managed care. Following these recommendations should increase the likelihood that managed care will be shown to be associated with lower rates of disability among Medicare beneficiaries in future studies.

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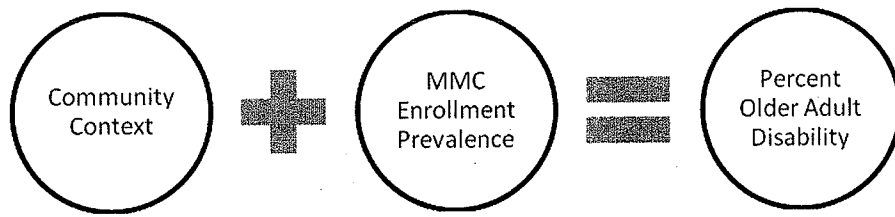Figure 1. Conceptual model of final multivariate linear regression

Table 1. Descriptive statistics for counties

	N	%		
Large central metro	50	2.9		
Large fringe metro	216	12.5		
Medium metro	216	12.5		
Small metro	190	11.0		
Micropolitan or non-metro	382	22.2		
Non-core or non-metro	669	38.8		
Predominantly (91-100%) white county	939	46.2		
	N	Mean	SE	95% CI
% Admissions to public or non-profit hospitals	1460	91.1	0.67	(89.8, 92.4)
% Population living below poverty	1819	12.7	0.12	(12.5, 13.0)
% Population with a high school education or less	1819	56.0	0.27	(55.5, 56.5)
% Population ages 65+	1819	14.8	0.10	(14.6, 15.0)
% Population ages 65+ living alone	1819	28.5	0.08	(28.3, 28.6)
% Enrolled in MMC	1817	6.1	0.25	(5.6, 6.6)
% Population ages 65+ with a disability	1819	43.4	0.16	(43.1, 43.7)
% Population that speaks English less than very well	1819	3.1	0.10	(2.9, 3.3)

Table 2. Correlations between MMC prevalence and community context variables and older adult disability

	N	r
MMC prevalence	2032	-0.197*
Urbanicity	1723	0.149*
Predominantly (91-100%) white	2032	-0.249*
% Admissions to public or non-profit hospitals	1460	-0.242*
% Population living below poverty	1819	0.656*
% Population with a high school education or less	1819	0.619*
% Population ages 65+	1819	-0.116*
% Population ages 65+ living alone	1819	0.254*
Percentage population that speaks English less than very well	1819	-0.079*

* = p ≤ .001

Table 3. Correlations, means, and standard deviations

	1	2	3	4	5	6	7
1. Urbancity	1						
2. Predominantly (91-100%) white	0.247***	1					
3. % Admissions to public or non-profit hospitals	0.057*	0.109***	1				
4. % Population living below poverty	0.294***	-0.324***	-0.140***	1			
5. % Population with a high school education or less	0.404***	0.059*	-0.155***	0.494***	1		
6. % Population ages 65+	0.461***	0.355***	0.057*	0.014	0.280***	1	
7. % Population ages 65+ living alone	0.263***	0.125***	0.092***	0.307***	0.303***	0.248***	1
8. % Population that speaks English less than very well	-0.281***	-0.378***	-0.005	0.112***	0.229***	-0.290***	-0.215***
Mean		4.54	0.46	91.12	12.72	56.01	14.80	3.09
SD		1.542	0.499	25.686	5.330	11.521	4.155	4.126

* = p ≤ .05, ** = p ≤ .01, *** = p ≤ .001

Table 4. Multivariate regression parameters for predicting older adult disability

	β	SE	t
MMC enrollment prevalence	0.078	1.154	0.2520**
Urbanicity	-0.297	0.091	-3.26*
Predominantly (91-100%) white	-1.242	0.263	-4.73**
% Admissions to public or non-profit hospitals	-0.022	0.004	-5.18**
% Population living below poverty	0.560	0.027	20.42**
% Population with a high school education or less	0.255	0.012	21.27**
% Population ages 65+	-0.373	0.030	-12.42**
% Population ages 65+ living alone	0.105	0.035	2.97*
% Population that speaks English less than very well	-0.219	0.028	-7.87**

$* = p \leq .01$, $** = p \leq .001$