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Awareness of Pharmaceutical Cost-Assistance Programs Among Inner-City Seniors

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Abstract

Background—Lack of awareness may be a significant barrier to participation by low- and middle-income seniors in pharmaceutical cost-assistance programs.

Objective—The goal of this study was to determine whether older adults' awareness of 2 major state and federal pharmaceutical cost-assistance programs was associated with the seniors' ability to access and process information about assistance programs.

Methods—Data were gathered from a cross-sectional study of independently living, English- or Spanish-speaking adults aged ≥60 years. Participants were interviewed in 30 community-based settings (19 apartment complexes and 11 senior centers) in New York, New York. The analysis focused on adults aged ≥65 years who lacked Medicaid coverage. Multivariable logistic regression was used to model program awareness as a function of information access (family/social support, attendance at senior or community centers and places of worship, viewing of live health insurance presentations, instrumental activities of daily living, site of medical care, computer use, and having a proxy decision maker fix health insurance matters) and information-processing ability (education level, English proficiency, health literacy, and cognitive function). The main outcome measure was awareness of New York's state pharmaceutical assistance program (Elderly Pharmaceutical Insurance Coverage [EPIC]) and the federal Medicare Part D low-income subsidy program (Extra Help).

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Results—A total of 269 patients were enrolled (mean [SD] age, 76.9 [7.5] years; 32.0%, male; 39.9% white). Awareness of the programs differed widely: 77.3% knew of EPIC and 22.3% knew of Extra Help. In multivariable analysis, study participants were more likely to have heard of the EPIC program if they had attended a live presentation about health insurance issues (adjusted odds ratio [AOR], 3.40; 95% CI, 1.20-9.61) and less likely if they received care in a clinic (AOR, 0.45; 95% CI, 0.23-0.92). Awareness of Extra Help in the multivariable models was more likely among study participants who had viewed a live health insurance presentation (AOR, 3.35; 95% CI, 1.55-7.24) and less likely for those with inadequate health literacy (AOR, 0.15; 95% CI, 0.03-0.74).

Conclusions—Viewing of live health insurance presentations and adequate health literacy were associated with greater awareness of important pharmaceutical cost-assistance programs in this study in low-income, elderly individuals. The findings suggest that use of live presentations, in addition to health literacy materials and messages, may be important strategies in promoting knowledge of and enrollment in state and federal pharmaceutical cost-assistance programs for low-income seniors.

Keywords

seniors; low income; pharmaceutical cost-assistance programs

INTRODUCTION

Medicare Part D was enacted as part of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 to provide Medicare beneficiaries with access to prescription drug coverage. With the introduction of the Part D drug benefit in January 2006, older adults gained a valuable tool to combat the rapidly escalating costs of medications. Yet, despite the program's positive impact on prescription medication use and savings for consumers,[1,2] prescription drug costs remain a problem for many older adults, leading to cost-related delays or avoidance of medications in 19.5% overall and in nearly one quarter of those with ≥3 chronic conditions.[3] In 2006, ~1.5 million Part D enrollees had annual prescription drug spending in excess of $2510, landing them in the coverage gap (ie, the so-called "donut hole").[4] In the coverage gap, beneficiaries are responsible for 100% of their prescription drug costs until they have spent approximately $5300, the level at which catastrophic coverage begins.[5] Although dozens of Part D plans are available in most regions of the country (47 in New York, New York, alone), only 15% of these plans and about half of Medicare Advantage Plans (MAPs) provide some coverage in the coverage gap.[5]

Because Congress anticipated that the cost-sharing requirements of the Part D drug benefit would be burdensome for many low-income seniors, it created a premium and cost-sharing subsidy program for low-income, Medicare Part D beneficiaries called Extra Help. Depending on the beneficiary's income and assets, those enrolled in the federal Extra Help program have zero or low-cost premiums and copays as little as $1 per prescription.[6] Part D beneficiaries in a number of states may also have a second source of aid—state pharmaceutical assistance programs (SPAPs). SPAPs typically help reduce drug copayments for lower income adults, and many work with Part D plans to provide more complete prescription coverage.[7] As of May 2006, there were 28 states with SPAPs that provided wraparound coverage for low-income Part D beneficiaries.[7]

Extensive efforts have been made to promote awareness of Extra Help and SPAPs in some states. These efforts, which include mailings, media campaigns (television, radio, and print), and community-based outreach, have had mixed success. Nonparticipation in Extra Help among eligible Medicare beneficiaries is estimated at <50% (or ~3 million).[6,8]

Limited participation in assistance programs is likely to be a multifactorial problem. Although little is known about which patient and system factors affect awareness of and participation in

pharmaceutical cost-assistance programs, research on another assistance program for low-income seniors, the Medicare Savings Program (MSP), provides some insight. The MSP is a state and federally supported entitlement program that provides premium and cost-sharing assistance for Medicare beneficiaries with income below 135% of the poverty level.[9] Despite the program's nationwide accessibility, only about one half to two thirds of potentially eligible Medicare beneficiaries participate.[10-12] Some of the barriers to participation include complicated enrollment forms, mandatory face-to-face interviews, and assets testing.[9-11, 13-17] Lack of awareness of this assistance program has also been cited as a major reason for its low enrollment numbers,[9] despite extensive efforts by the federal government to increase awareness of the program.[12]

Awareness of options is the first step toward participation in cost-assistance programs. A recent study reported that 67% of community-dwelling seniors knew of New York's state pharmaceutical assistance program (Elderly Pharmaceutical Insurance Coverage [EPIC]) and only 20% knew of the federal Medicare Part D low-income subsidy program (Extra Help).[18] The goal of the current study was to determine whether older adults' awareness of these 2 major state and federal pharmaceutical cost-assistance programs was associated with the seniors' ability to access and process information about assistance programs.

PATIENTS AND METHODS

Patients and Setting

Data for this analysis were collected as part of a study of independently living, English- or Spanish-speaking adults, aged ≥60 years, who lacked Medicaid coverage. Participants were interviewed in 30 community-based settings (19 apartment complexes, 11 senior centers) in the New York City borough of Manhattan. Senior centers, either freestanding or connected with naturally occurring retirement communities, were identified through listings maintained by the New York City Department for the Aging. A list from the US Department of Housing and Urban Development was used to identify federally supported low-income housing facilities. Sites were selected in zip code areas with median household incomes below $50,000, and men were oversampled because they are outnumbered by women in these communities.[19]

Individuals were recruited during site-sponsored meals or special events for a longitudinal study about health, health care use, and health insurance that provided $20 for the baseline interview and $20 for a follow-up interview (scheduled 6-9 months later). Interviews (N = 451) were conducted with a single member of a household and were performed in English and Spanish in person by trained bilingual interviewers. Written informed consent was obtained from all participants before the interviews were conducted, and the study was approved by the Mount Sinai School of Medicine Institutional Review Board.

Outcome Measures

The study's main outcome was awareness of the EPIC and Extra Help programs. The EPIC program was established in 1987 and provides support for prescription drug purchases for New York state residents aged >64 years with incomes up to $35,000 for single adults and $50,000 for married adults. Individuals with full Medicaid benefits are ineligible for EPIC.[20] The program has a fee plan for the lowest income adults, with annual fees of $8 to $300; the fees are determined using an income-based sliding scale. Individuals or couples with higher incomes ($20,000 or $26,000, respectively) pay annual deductibles on a sliding scale of $530 to $1715. Drug copays for both plans range from $3 to $20.

Extra Help is administered by the Social Security Administration and covers a portion of Medicare Part D premiums and copays, as well as ~85% of medication costs incurred for

spending in the coverage gap. Extra Help is available to Medicare beneficiaries without Medicaid who have income below 150% of the poverty level and assets below $11,990 for singles and $23,970 for couples.[21]

Awareness of EPIC and Extra Help was assessed using individual survey items. The question about EPIC was introduced as follows: “Now I want to ask you about your knowledge of different types of programs that may lower the cost of medications and health insurance. Have you heard of EPIC, the program run by New York State that helps older people pay for their prescription drugs?” Awareness of Extra Help was determined with the following statements: “There is a program called Extra Help that lowers the cost of drugs for low-income people who are in Medicare prescription drug plans. Have you heard of Extra Help?” These surveys were intentionally administered after an extensive battery of questions about each individual’s insurance coverage, including a review of his or her insurance and prescription drug cards. The goal was to increase the likelihood that the study participants would be reminded of EPIC or Extra Help if they had previously heard of them.

Independent Variables

Familiarity with an assistance program such as EPIC or Extra Help may be associated with several characteristics of each individual and his or her social and health care environments. Of particular interest were identifying factors that might be focal points for efforts to improve dissemination of information about such assistance programs; these factors included the individual’s ability to access and process information about assistance programs. for access, variables were used for the frequency of attendance at sites where information on assistance programs might be presented (senior or community centers and places of worship), having viewed a live health insurance presentation, functional impairment with instrumental activities of daily living (IADL), description of the site where they obtain medical care, having a proxy decision maker for health insurance matters, and frequency of computer use (rarely/never, sometimes/often). To evaluate experience with health insurance presentations, patients were asked the following: “In the past 6 months, have you listened to a live presentation about health insurance?” Self-reported performance on 5 IADL (managing money, eating, dressing, bathing, and toileting) was documented.[22] and the study participant was considered to have an impairment if he or she experienced a lot of difficulty with ≥1 task or was unable to complete ≥1 task. Sites of care included private solo or group practices, neighborhood or freestanding clinics, hospital-based clinics, and other clinical sites.

To represent a participant’s ability to process information about assistance programs, measures of education level, English proficiency, health literacy, and cognitive function were used. English proficiency was assessed using the following question: “How would you describe your ability to speak and understand English?” The 6 response options ranged from very poor to excellent. Health literacy was measured using the Short Test of Functional Health Literacy in Adults (S-TOFHLA).[23] Scores on the S-TOFHLA correspond to 3 levels of health literacy: adequate, marginal, and inadequate. For example, individuals with inadequate health literacy struggle with basic medical information, such as reading prescription bottles.[23] The Mini-Mental State Examination (MMSE) was used as a measure of global cognitive function.[24] Because the effect of cognitive function could be mostly one of memory impairment rather than other skills measured with the MMSE (eg, executive function, visual-spatial abilities), a specific measure of memory impairment was also used, the delayed recall subset of the Wechsler Memory Scale-Third Edition (WMS III).[25] Both the MMSE and the WMS III were adjusted for education level and dichotomized as normal and abnormal based on a threshold of 2 SDs below age-based norms.[25,26]

Also included in the analyses were variables that might influence awareness of pharmaceutical cost-assistance programs. The choice of other variables was based on empirical data, as well

as on the Anderson and Aday model of need-for-care, predisposing, and enabling factors that influence utilization of health services.[27] These variables included financial and health status factors that may increase need for assistance (lower income and assets, greater out-of-pocket medication spending, avoidance of medications due to cost, higher comorbidity rates, and worse general health) and self-reported demographic factors (age, sex, and race). Avoidance of medication use was based on questions on previously published items about whether respondents skipped or delayed taking a medication, took less of a medication, or delayed refilling a prescription because of cost.[28] finally, whether individuals were potentially eligible for the EPIC and Extra Help programs was determined. EPIC eligibility was limited to those aged ≥65 years with household income less than $3000 per month who were not enrolled in Medicaid. Participants were eligible for the Extra Help program if they were enrolled in Medicare, had income less than $1350 per month combined, and assets less than $23,000 for married individuals and less than $12,000 for singles.

Analysis

The analyses focused on the subset of individuals who were aged ≥65 years and lacked Medicaid coverage. These individuals were selected because the EPIC and Extra Help programs are most pertinent to the Medicare population and because dually enrolled Medicaid-Medicare beneficiaries automatically receive subsidized coverage under MAPs and Part D plans. The main study outcome (ie, awareness of the EPIC and Extra Help programs) was separately assessed in multivariable and univariable logistic regression models. To construct the multivariable models, the first step was to model the association between awareness of EPI C or Extra Help with 8 sets of primary variables of interest: education level, poor English proficiency, inadequate health literacy, abnormal MMSE and WMS III scores, impairment of IADL, attendance at senior or community centers and places of worship, and viewing of a live health insurance presentation. Because of the large number of potentially confounding variables included in the analyses, a manual selection procedure was used in which variables within a given domain were simultaneously added to the model. Those variables with *P* values ≤0.20, or those that altered the β-coefficient of ≥1 of the primary independent variables by ≥10%, were retained for the final model.[29] Each set of variables was tested in this manner.

Few items were missing >5.0% of responses. However, 13.0% were missing data on income and 15.4% on assets, consistent with other survey studies in which data on self-reported income were collected.[30,31] Hot-deck multiple imputation methods were used to replace missing observations for both income and assets in logistic regression analyses.[32] Imputed data sets were created with Stata version 10.0 using the hot-deck command (StataCorp LP, College Station, Texas). All analyses were conducted with SAS version 9.1 (SAS Institute Inc., Cary, North Carolina).

RESULTS

Sample Characteristics

Characteristics of the 269 study participants are shown in Table I Their mean (SD) age was 76.9 (7.5) years, and 32.0% were men. The sample was well represented by major racial and ethnic groups, with 39.9% white, 32.0% black, and 22.6% Latino participants. Educational attainment varied widely, and 17.2% had inadequate health literacy scores. Notably, 58.8% of participants rarely or never used a computer. Among those who used computers sometimes or often, 15.5% rarely or never used the Internet. Most had incomes below $3000 per month, and few were married or living with a partner (20.8%).

Nearly all participants had Medicare coverage (99.3%), and 55.6% were enrolled in a MAP or a stand-alone Part D plan. Based on age, income, and assets criteria, an estimated 82.2% were potentially eligible for EPIC and 36.4% were potentially eligible for Extra Help.

Although study participants were living independently, the sample had a high rate of functional impairment and chronic disease (Table I). Notably, 34.3% considered their health to be poor to fair, and 52.8% had ≥3 chronic diseases. Two thirds (67.0%) used ≥3 prescription drugs. Sixteen percent reported out-of-pocket spending of $100 or more per month on prescription drugs, and 16.4%, reported avoiding use of medication because of cost.

Awareness of the Elderly Pharmaceutical Insurance Coverage and Extra Help Programs

Awareness of the state EPIC program and the federal Extra Help program differed markedly (77.3%vs 22.3%, respectively). Several individual characteristics were associated with low awareness of the EPIC program in unadjusted analyses (Table II): male gender, black race, inadequate health literacy, abnormal score on the MMSE, and receiving care in a clinic setting (vs private solo or group practice). In contrast, study participants who were aware of the program were more likely to have heard a live presentation about health insurance. Awareness was not higher in those with markers of greater need, including lower income, higher medication use, and medication avoidance because of cost.

In multivariable analysis (Table II), study participants were more likely to have heard of the EPIC program if they had attended a live presentation about health insurance issues (adjusted odds ratio [AOR], 3.40; 95% CI, 1.20-9.61) and less likely if they received care in a clinic (AOR, 0.45 ; 95% CI, 0.23-0.92).

Overall, fewer variables were associated with awareness of Extra Help compared with EPIC, but there were some consistencies. As with EPIC, awareness of Extra Help was more likely among those who had viewed a live health insurance presentation (Table III) and less likely for those with inadequate health literacy and abnormal MMSE scores. Frequent attendance at senior or community centers was also associated with greater awareness of the program. These associations remained statistically significant in multivariable models (heard a live presentation: AOR, 3.35; 95% C I, 1.55-7.24; weekly senior or community center attendance: AOR, 2.87; 95% CI, 1.24-6.66; and inadequate health literacy: AOR, 0.15; 95% CI, 0.03-0.74). Financial need factors, cognitive function, and social engagement (attendance at community or senior centers and places of worship) did not influence awareness of Extra Help.

DISCUSSION

Low-income, older adults have a small number of federally and state-supported options for reducing financial barriers to prescription medications, and many seniors who would benefit from these programs are not aware of them. In our study of a diverse sample of independently living seniors, ~1 in 5 knew of Extra Help, the federal low-income subsidy program for enrollees of stand-alone and MAP-associated Part D plans. In addition, although the majority of the study participants had heard about EPIC, New York's state pharmaceutical assistance program for older adults, approximately one quarter were unaware of it. Importantly, health literacy was a significant predictor of lack of awareness of the Extra Help program. This suggests that information disseminated through print materials and electronic sources may not achieve their intended purpose even when they reach those who need the assistance. However, the data also suggest that live presentations about health insurance may help overcome barriers to dissemination. The odds of knowing about EPIC and Extra Help were ~3.4 times greater for those who had viewed a health insurance presentation than those who had not, and live presentations erased the lack of awareness of EPIC that was associated with limited health literacy.

It is particularly concerning that patients with lower health literacy had less awareness of Extra Help, as restricted access to affordable health care may further complicate management of their acute and chronic health problems. Patients with low health literacy experience worse health outcomes than more literate patients,[33,34] and low health literacy is a contributor to health disparities across different age and ethnic groups.[35-38] As the population of older adults expands over the coming decades, the number of individuals with low health literacy will increase, compounding the problem of limited awareness of—and subsequent access to—programs that assist many of the most vulnerable seniors. For example, the primary source of information for Medicare beneficiaries, the *Medicare & You* handbook, is poorly understood by many of its recipients.[39-41] The Social Security Administration also relies on mailings to inform Medicare beneficiaries about Extra Help,[42] although, to our knowledge, there are no reports of how well seniors are able to process the information presented in these print materials as it relates to their own financial situations. Other sources of information require Medicare beneficiaries to take a specific action, such as making a phone call to the Medicare Hotline (1-800-MEDICARE) or accessing Medicare's Web site (www.medicare.gov). However, seniors may not have access to a telephone, may have functional disabilities restricting their phone use, or may be unaware of the hotline service. Indeed, only 14.0% of Medicare beneficiaries were estimated to have used the hotline in 2001.[43] Access to the Medicare Web site is limited for many seniors as well. In the current study, 41.2% of participants used a computer sometimes or often, the same as that observed in a nationally representative assessment of computer use by seniors.[44] In summary, some of the major sources of information on Extra Help are not readily accessible to many vulnerable and needy seniors.

Community-based out reach programs generally promote both the EPIC and Extra Help programs, so it is unlikely that this source of dissemination accounts for the differences we observed in the rate of awareness of the 2 programs. In addition, although the Social Security Administration focused on outreach efforts in the first few months of 2006 after Medicare Part D was implemented, including conducting as many as 12,000 community-based presentations in a single month, the number of community events dropped sharply after October of that year.[42] One potentially important difference between EPIC and Extra Help may be longevity. The EPIC program was established >20 years ago, and its longstanding presence may have created brand recognition and promoted word-of-mouth dissemination of program information. Furthermore, New York has promoted the EPIC program heavily through statewide radio and television advertising, as well as print advertising in major newspapers and local papers that target ethnically diverse communities (J.A. Naglieri, Director, NYS EPIC Program, oral communication, March 2009). A more focused examination of methods for disseminating information regarding assistance programs, taking into account certain predisposing factors such as health literacy and cognitive functioning, is warranted.

Limitations

We surveyed a diverse sample of older adults from 30 community-based sites in New York, New York. Nevertheless, the generalizability of our findings should be weighed in light of several potential limitations. First, the study was conducted in a single city in New York, and it is unknown how community-based out-reach efforts may differ for SPAPs and Extra Help in other states and municipalities.[7] Extra Help, however, is a federal program associated with Medicare Part D, and major outreach efforts are conducted nationally by Medicare and the Social Security Administration. Due to the challenges of recruiting seniors in community-based residential and senior center settings, enrollment in our study may have been subject to recruitment bias. For example, individuals with specific concerns about insurance may have been more interested in participating than others, and the response rate in this survey is not known, as data on the number of individuals approached were not recorded. However, we were concerned about such a bias and deemphasized the insurance element of the study in our

recruitment efforts. Regarding the live health insurance presentations, we had no information about the presenters or location of the presentations, and could not confirm that the health insurance presentations attended by study patients included information about EPIC and Extra Help. It is likely, however, that most presentations did mention these 2 programs because they are among the most important resources available to older adults seeking to reduce prescription drug-related costs, and private health plans have an incentive to promote Extra Help because it can further reduce premium and copayments, making the plan appear more attractive to consumers. Lastly, we did not assess enrollment in the EPIC and Extra Help programs because beneficiaries typically do not carry evidence of their participation in the programs.

Regardless of the method used to disseminate information about assistance programs, the Centers for Medicare & Medicaid Services and the Social Security Administration should consider examining how target audiences interpret the information disseminated through their outreach efforts, and ensure that their materials and presentations are appropriately designed for populations with low health literacy. Vulnerabilities such as frailty, social isolation, and disparities in abilities to access and process information make it unlikely, however, that all needy seniors will learn about and successfully enroll in programs such as EPIC and Extra Help, even with improved outreach. Ultimately, the most efficient approach is likely to be automatic enrollment in assistance programs based on administrative data, such as Social Security Administration-directed auto-enrollment of Medicare Savings Program beneficiaries in the Part D low-income subsidy.

CONCLUSIONS

Viewing of live health insurance presentations and adequate health literacy were associated with greater awareness of important pharmaceutical cost-assistance programs in this study in low-income, elderly individuals. These findings suggest that use of live presentations, in addition to health literacy materials and messages, may be important strategies in promoting knowledge of and enrollment in state and federal pharmaceutical cost-assistance programs for low-income seniors.

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Table I

Characteristics of study participants (N = 269)

Variable	Frequency, %	Variable	Frequency, %
Age group, y		Eligible for EPIC	82.2
65-69	21.9	Eligible for Extra Help	36.4
70-74	18.2	Monthly out-of-pocket spending on	
75-79	24.9	prescription drugs, $	
80-84	16.4	None	17.1
≥85	18.6	1-9	12.6
Male	32.0	10-19	11.5
Race/ethnicity		20-49	23.4
White	39.9	50-99	19.3
Black	32.0	≥100	16.0
Latino	22.6	Any cost-related medication avoidance	16.4
Other	5.6	Married or living with a partner	20.8
English proficiency		Has dependents	14.5
Good to excellent	89.6	Trusts someone for assistance with	
Very poor to fair	10.4	health insurance matters	66.7
Education		Senior or community center attendance	
4-Year college graduate or higher degree	33.2	Rarely or never	30.2
1-3 Years of college	24.6	≥1 Time/week	60.8
High school degree or GED	21.6	≥1 Time/month	9.0
High school or GED	10.5	Attendance at a place of worship	
8th Grade or less	10.1	Once or never	52.9
Health literacy		≥1 Time/month	39.6
Adequate	72.8	≥1 Time/year	7.5
Marginal	10.0	Heard a live health insurance presentation	
Inadequate	17.2	within the past 6 months	23.1
Computer use		Abnormal score on MMSE	29.8
Rarely/never	58.8	Abnormal score on WMS III	24.9
Sometimes/often	41.2		
Income (monthly, household), $		General health	

Variable	Frequency, %	Variable	Frequency, %
>3000	18.2	Very good to excellent	31.7
1351-3000	58.7	Good	34.0
≤1350	23.1	Poor to fair	34.3
		No. of chronic diseases	
Assets, $		None	8.2
>23,000	31.2	1-2	39.0
4001-23,000	15.6	3-4	37.1
≤4000	53.2	≥5	15.7
Medicare coverage	99.3	≥1 IADL deficiency	39.8
Other coverage		No. of prescription drugs	
Medicare Advantage	37.3	0-2	33.1
Private (employer-based or Medigap)	27.6	3-4	23.1
Stand-alone Medicare Part D plan	18.3	5-6	24.2
Medicare FFS only	11.9	7-9	12.6
Other (includes Veterans Health Administration)	4.9	≥10	7.1
Site of care		No. of annual visits to primary care provider	
Private solo or group practice	64.7	≥6	22.1
Hospital-based clinic	19.0	4-5	30.6
Neighborhood or freestanding clinic	7.1	2-3	33.0
Other	9.2	0-1	14.3

GED = General Equivalency Diploma; EPIC = Elderly Pharmaceucical Insurance Coverage program; Extra Help = federal Medicare Part D low-income subsidy program; MMSE = Mini-Mental State Examination; WMS III = Wechsler Memory Scale-Third Edition; IADL = Instrumental activities of daily living.

Table II

Factors associated with awareness of New York's state pharmaceutical assistance program, Elderly Pharmaceutical Insurance Coverage (EPIC)*

Variable	Unadjusted Odds Ratio (95% CI)	*P*	Adjusted Odds Ratio (95% CI)	*P*
Age group, y				
65-69	Ref.			
70-74	0.96 (0.40-2.33)	0.93	-	-
75-79	1.77 (0.72-4.37)	0.21	-	-
80-84	0.83 (0.33-2.03)	0.68	-	-
≥85	0.99 (0.41-2.38)	0.97	-	-
Male	0.53 (0.29-0.95)	0.03	0.61 (0.28-1.30)	0.20
Race/ethnicity				
White or other	Ref.		Ref.	
Black	0.44 (0.22-0.88)	0.02	0.54 (0.23-1.30)	0.17
Latino	0.48 (0.23-1.02)	0.06	0.76 (0.31-1.84)	0.54
Poor English proficiency	1.36 (0.49-3.74)	0.55	-	-
Education				
Any college	Ref.			
Any high school	0.83 (0.45-1.55)	0.56	-	-
8th Grade or less	0.94 (0.35-2.52)	0.90	-	-
Inadequate health literacy	0.49 (0.25-0.97)	0.04	0.95 (0.38-2.35)	0.90
Computer use, sometimes/often	1.05 (0.58-1.88)	0.87	-	-
Income (monthly household), $				
>3000	Ref.			
1351-3000	1.45 (0.63-3.35)	0.38	-	-
≤1350-2000	1.80 (0.89-3.66)	0.10	-	-
Assets, $				
>23,000	Ref.			
4001-23,000	0.70 (0.35-1.37)	0.30	-	-
≤4000	0.61 (0.25-1.49)	0.28	-	-
Insurance type				
Private (employer-based or Medigap)	Ref.			

Variable	Unadjusted Odds Ratio (95% CI)	*P*	Adjusted Odds Ratio (95% CI)	*P*
Medicare Advantage	1.55 (0.75-3.20)	0.24	-	-
Stand-alone Medicare Part D plan	1.51 (0.62-3.68)	0.37	-	-
Medicare FFS only	0.75 (0.33-1.70)	0.49	-	-
Monthly out-of-pocket spending on prescription drugs, $				
None	Ref.			
1-19	1.31 (0.55-3.11)	0.54	-	-
20-49	1.38 (0.58-3.31)	0.47	-	-
≥50	1.69 (0.74-3.83)	0.21	-	-
Any cost-related medication avoidance	0.61 (0.26-1.46)	0.27	-	-
Married or living with a partner	0.52 (0.27-1.00)	0.05	0.60 (0.27-1.33)	0.21
Has dependents	0.81 (0.37-1.76)	0.59	-	-
Trusts someone for assistance with health insurance matters	1.11 (0.67-1.85)	0.69	-	-
Senior or community center attendance				
Rarely or never	Ref.			
≥1 Time/week	0.57 (0.30-1.11)	0.10	-	-
≥1 Time/month	0.86 (0.37-1.99)	0.73	-	-
Attendance at a place of worship				
Once or never	Ref.			
≥1 Time/month	0.79 (0.41-1.50)	0.46	-	-
≥1 Time/year	1.11 (0.50-2.42)	0.80	-	-
Heard a live health insurance presentation within the past 6 months	4.05 (1.54-10.6)	0.005	3.40 (1.20-9.61)	0.02
Abnormal score on MMSE	0.44 (0.23-083)	0.01	0.51 (0.23-1.14)	0.10
Abnormal score on WMS III	0.89 (0.46-1.71)	0.72	-	-
General health, poor-fair	0.70 (0.39-1.28)	0.25	-	-
No. of chronic diseases				
None	Ref.			
1-2	1.19 (0.52-2.76)	0.68	-	-
3-4	1.06 (0.46-2.44)	0.89	-	-
≥5	1.06 (0.38-3.00)	0.91	-	-
≥1 IADL deficiency	0.76 (0.42-1.35)	0.35	-	-

Variable	Unadjusted Odds Ratio (95% CI)	*P*	Adjusted Odds Ratio (95% CI)	*P*
No. of prescription drugs				
0-2	Ref.		Ref.	
3-4	2.30 (0.99-5.35)	0.05	1.64 (0.63-4.24)	0.31
5-6	0.95 (0.47-1.92)	0.88	1.12 (0.48-2.63)	0.79
7-9	2.93 (0.94-9.17)	0.06	4.95 (0.97-25.2)	0.05
≥10	2.08 (0.56-7.78)	0.27	2.32 (0.55-9.84)	0.25
Site of care, neighborhood or freestanding clinic	0.50 (0.28-0.91)	0.02	0.45 (0.23-0.92)	0.03
No. of annual visits to primary care provider				
≥6	Ref.			
4-5	1.66 (0.63-4.42)	0.31	-	-
2-3	1.67 (0.78-3.57)	0.18	-	-
0-1	1.31 (0.62-2.77)	0.47	-	-

FFS = fee-for-service; MMSE = Mini-Mental State Examination; WMS III = Wechsler Memory Scale-Third Edition; IADL = instrumental activities of daily living.

* Goodness-of-fit diagnostics indicate good model fit (Hosmer-Lemeshow, $P = 0.64$; deviance/*df*. $P = 0.34$). Multicollinearity diagnostics suggest no collinearity problems (tolerance, 0.70-0.94).

Table III

Factors associated with awareness of the Medicare Part D low-income subsidy program, Extra Help*

Variable	Unadjusted Odds Ratio (95% CI)	*P*	Adjusted Odds Ratio (95% CI)	*P*
Age group, y				
65-69	Ref.		Ref.	
70-74	1.10 (0.49-2.49)	0.81	1.41 (0.54-3.67)	0.48
75-79	0.55 (0.24-1.25)	0.15	0.56 (0.22-1.44)	0.23
80-84	0.43 (0.16-1.15)	0.09	0.74 (0.25-2.22)	0.59
≥85	0.37 (0.14-0.98)	0.05	0.64 (0.22-1.89)	0.42
Male	0.79 (0.42-1.46)	0.44	-	-
Race/ethnicity				
White or other	Ref.			
Black	0.94 (0.48-1.84)	0.85	-	-
Latino	1.27 (0.62-2.59)	0.52	-	-
Poor English proficiency	1.72 (0.74-4.03)	0.21	-	-
Education				
Any college	Ref.			
Any high school	1.16 (0.62-2.16)	0.64	-	-
8th Grade or less	1.03 (0.38-2.74)	0.96	-	-
Inadequate health literacy	0.17 (0.05-0.58)	0.004	0.15 (0.03-0.74)	0.02
Computer use, sometimes/often	1.30 (0.73-2.32)	0.37	-	-
Income (monthly, household), $				
>3000	Ref.			
1351-3000	0.96 (0.44-2.07)	0.21	-	-
≤1350	1.73 (0.73-4.07)	0.91	-	-
Assets, $				
>23,000	Ref.			
4001-23,000	1.44 (0.58-3.55)	0.43	-	-
≤4000	1.55 (0.79-3.04)	0.20	-	-
Insurance type				
Private (emplover-basedor Medigap)	Ref.			
Medicare Advantage	1.00 (0.47-2.11)	1.0	-	-

Variable	Unadjusted Odds Ratio (95% CI)	*P*	Adjusted Odds Ratio (95% CI)	*P*
Stand-alone Medicare Part D plan	1.94 (0.85-4.42)	0.11	-	-
Medicare FFS only	1.14 (0.46-2.82)	0.77	-	-
Monthly out-of-pocket spending on prescription drugs, $				
None	Ref.			
1-19	1.83 (0.74-4.49)	0.19	-	-
20-49	1.18 (0.46-3.00)	0.74	-	-
≥50	0.96 (0.39-2.34)	0.93	-	-
Any cost-related medication avoidance	0.74 (0.36-1.55)	0.43	-	-
Married or living with a partner	0.42 (0.18-0.98)	0.05	0.40 (0.15-1.05)	0.06
Has dependents	0.86 (037-1.99)	0.73	-	-
Trusts someone for assistance with health insurance matters	0.80 (0.48-1.35)	0.40	-	-
Senior or community center attendance				
Rarely or never	Ref.		Ref.	
≥1Time/month	1.31 (0.56-3.04)	0.53	1.72 (0.65-4.51)	0.27
≥1 Time/week	2.61 (1.36-5.00)	0.004	2.87 (1.24-6.66)	0.01
Attendance at a place of worship				
Once or never	Ref.		Ref.	
≥1 Time/year	0.78 (0.37-1.65)	0.51	-	-
≥1 Time/month	0.65 (0.33-1.28)	0.21	-	-
Heard a live health insurance presentation within the past 6 months	2.61 (1.40-4.87)	0.003	3.35 (1.55-7.24)	0.002
Abnormal score on MMSE	0.37 (0.17-0.81)	0.01	0.71 (0.29-1.74)	0.45
Abnormal score on WMS III	0.77 (0.39-1.54)	0.46	-	-
General health, poor-fair	1.33 (0.74-2.39)	0.35	-	-
No. of chronic diseases				
None	Ref.			
1-2	1.50 (0.61-3.66)	0.38	-	-
3-4	1.68 (0.69-4.09)	0.26	-	-
≥5	0.98 (0.31-3.15)	0.98	-	-
≥1 IADL deficiency	1.17 (0.65-2.08)	0.61	-	-
No. of prescription drugs				

Variable	Unadjusted Odds Ratio (95% CI)	*P*	Adjusted Odds Ratio (95% CI)	*P*
0-2	Ref.			
3-4	0.43 (0.18-1.03)	0.06	-	-
5-6	0.86 (0.41-1.82)	0.69	-	-
7-9	1.03 (0.42-2.54)	0.94	-	-
≥10	1.32 (0.45-3.89)	0.61	-	-
Site of care, neighborhood or freestanding clinic	0.92 (0.50-1.69)	0.79	-	-
No. of annual visits to primary care provider				
≥6	Ref.			
4-5	1.27 (0.52-3.1 0)	0.50	-	-
2-3	0.49 (0.22-1.12)	0.09	-	-
0-1	1.09 (0.52-2.28)	0.83	-	-

FFS = fee-for-service; MMSE = Mini-Mental State Examination; WMS III = Wechsler Memory Scale-Third Edition; IADL = instrumental activities of daily living.

* Goodness-of-fit diagnostics indicate good model fit (Hosmer-Lemeshow $P = 0.99$; deviance/df, $P = 0.61$). Multicollinearity diagnostics suggest no collinearity problems (tolerance, 0.58-0.97).