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Who do older adults trust to provide information about prescription drugs?

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Abstract

Background—Cost-related non-adherence to medications is common among older adults and doctor-patient communication about medication cost issues occurs infrequently. One factor affecting communication and adherence may be older adults' confidence in the information about prescription drugs provided by physicians and other actors.

Objectives—Identify who older adults trust to provide information on drugs and examine the relationship between trust in physicians to provide price information and cost-related non-adherence.

Methods—We conducted a cross-sectional national telephone survey of 1,001 individuals age 50 and older taking at least one medication. Our primary measures were trust in various information sources about prescription drugs, beliefs about physician roles, and cost-related medication non-adherence.

Results—Compared with other sources of information, older adults were most likely to trust doctors (55.6%) and pharmacists (61.7%) “a lot” to provide information on drug prices; respondents were even more likely to place a lot of trust in doctors and pharmacists to provide information on drug effectiveness (79.7% and 66.4%, respectively). Less than half said there are ways that doctors could lower drug costs. Adults 65 and older and minorities were more likely to trust doctors to provide drug price information than adults 50–64 and whites. Among individuals with high drug costs, those who placed a lot of trust in doctors to provide price information were less likely to report cost-related non-adherence (OR 0.40, 95% CI 0.21–0.78).

Conclusions—Older adults trust physicians and pharmacists much more than other sources to provide information on prescription drugs. Trust in physicians to provide price information is an important moderator of the effect of high drug costs on cost-related non-adherence. Efforts to provide patients and their providers with data on drug price and effectiveness may increase adherence.

Keywords

prescription drug costs; patient-provider communication; trust in physicians; cost-related non-adherence

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Introduction

When faced with high out-of-pocket drug costs, many older adults respond by skipping doses of their medications, taking smaller doses, or failing to fill their prescriptions.^{1–5} Even after the implementation of the Medicare drug benefit (Part D) in 2006, 11.5% of seniors reported such cost-related non-adherence.⁶ Non-adherence to medication therapy has been shown to lead to negative health outcomes, and greater use of emergency department and inpatient hospital services.^{1, 7–10}

Studies have shown that opportunities for more cost-effective prescribing with older adults exist.^{11–14} Providing consumers with information on the comparative effectiveness and prices of prescription drugs may encourage better communication between patients and their doctors and increase the prescribing of high value medications. It is not clear, however, how such information should be integrated into the medication choice process or who should provide such information to consumers. Some have argued that physicians should incorporate patient out-of-pocket costs for drugs into prescribing decisions.¹⁵ Yet, few physicians have the information necessary for making cost-effective drug choices.^{15–18} Retail pharmacists possess prescription drug price information but have limited ability and incentive to influence prescribing practices. Some large employers and insurers are providing information on the quality and cost of health care services including prescription drugs but these actors are also somewhat removed from prescribing decisions. Moreover, consumers may not trust information provided by these entities given their incentives to minimize health care expenditures.¹⁹ Finally, consumers have access to other sources of information on prescription drugs (e.g., the Internet), although the quality of the information is highly variable.²⁰

Little is known about how much trust consumers place in the various sources of information on prescription drugs and who trusts which sources of information. Studies have shown that *overall* trust in one's physician is associated with better adherence to pharmacotherapy²¹, and that it moderates the relationship between high out-of-pocket drug costs and cost-related non-adherence.²² However, patient-doctor trust is a multidimensional construct and can be based on physician agency, technical competence, communication skills, reliability and confidentiality, among other attributes and behaviors.^{23–25} Little is known about how consumers view physicians and other actors as sources of information on prescription drug effectiveness and cost. We therefore conducted a national telephone survey of 1001 adults age 50 and older to determine the following: (1) How much do consumers trust various sources to provide information on the effectiveness and prices of prescription medicines? (2) What individual-level factors predict trust in the information sources? Finally, (3) because of the central relationship between doctor-patient communication and cost-related non-adherence, we also examined whether trust in physicians to deliver information on the comparative prices of prescription drugs was associated with the likelihood that consumers fail to fill prescriptions or reduce or skip doses due to cost.

Patients and Methods

Data collection

We conducted a national opinion survey using random digit dialing with screening eligibility targets for persons age 50–64 and 65 years and older who were using at least one prescription drug. In all, 1,001 completed interviews were conducted among adults age 50 and older, evenly stratified by age and gender into 4 quota groups: men age 50–64 (n=250), men age 65 or more (n=250), women age 50–64 (n=250), and women age 65 or more (n=251).

Opinion Research Corporation (Princeton, NJ) conducted these telephone interviews on behalf of the Consumer Reports National Research Center from October 3 to November 4, 2006. All

surveys were conducted in English. Our interview rate among those contacted and determined to be eligible was 78% (AAPOR cooperation rate #4 <http://www.aapor.org/standards.asp>). This study was approved by the Massachusetts General Hospital and University of Pittsburgh IRBs.

Measures

Our study contained two questions on trust – one about drug prices, and a second about effectiveness. Specifically, we asked respondents how much they would trust (i.e., a lot, somewhat, or not at all) various sources (e.g., physician, pharmacist, nurse, insurance company, Internet, etc.) to give them helpful information on “the price of the prescription medicine compared to others like it,” and “how well the prescription medicine will work for you compared to other medicines like it.” We were particularly interested in assessing trust in physicians due to the central role they play in choosing medications for their patients.

To examine the construct validity of our measure of trust in physicians to provide information on prescription drug prices, we included items to assess beliefs about physicians’ abilities to lower drug costs (“it’s not my doctor’s job to help with medicine cost issues,” “there are ways that doctors can help lower my prescription medicine costs,” “the medicines my doctor chooses for me are the least expensive”) and measures of patient activation (“I do whatever my doctor recommends,” and “I know the different medical treatment options available for my condition.”²⁶ We collected information on cost-related non-adherence to medication therapy using measures from the Seniors’ Prescription Cost Use and Spending Survey (SPCUSS) (Tufts New England Medical Center) that have been widely reported in the literature and were recently incorporated into the Medicare Current Beneficiary Survey.^{1, 2, 14, 27, 28} Specifically, we asked consumers whether in the last 12 months they failed to fill a prescription because of cost, skipped doses to make a prescription last longer and/or took smaller doses to make a prescription last longer. These items have been found to have adequate test-retest reliability.²⁸ The survey instrument also included questions on socio-demographic characteristics, insurance coverage, medication use and out-of-pocket spending on drugs.

Analysis

We conducted descriptive, bi-variate and multivariate regression analyses using SAS version 9.1. Bi-variate tests of significance were performed using the SURVEYFREQ procedure in SAS, which uses the Taylor expansion method to estimate sampling errors of estimators based on complex sample designs. We weighted observations in each of the four age/gender strata to adjust for the differential probability of being sampled.

We dichotomized our trust measures into those who trust “a lot” vs. those who trust “somewhat” or “not at all.” To identify factors associated with trust in several potential sources of information on comparative drug prices we used multivariate logistic regression models and included variables for age (65 years and older vs. 50–64 year olds), sex, race (non-white vs. white), education (college or more vs. others), whether the individual had prescription drug coverage, and income (low, high, or not reported). We defined low income as an income below \$2000 per month. We classified individuals as lacking prescription drug coverage if they were (1) under 65 and lacked health insurance, or (2) were 65 and older and lacked supplementary insurance coverage for drugs. We included variables for high drug utilization (individuals taking 4 or more drugs regularly) and high drug spending (those with \$76 in out-of-pocket drug costs per month or more). These two variables were not highly correlated (0.30) so we included both in the regression models simultaneously.

We assessed the construct validity of our measure of trust in physicians to provide drug price information by testing its association with measures of patient activation, and trust in physicians.^{26, 29} For example, we hypothesized that individuals who generally follow their

physicians' advice would also be more likely to trust them as an information source on prescription drugs.

In order to examine whether trust in physicians to provide information on drug prices might reduce cost-related non-adherence, we constructed logistic regression models using a dichotomous outcome variable equal to 1 if respondents answered yes to any of the three cost-related non-adherence questions listed above. We included a dummy variable for individuals who said they trust doctors "a lot" to provide comparative price information and adjusted for all of the variables described above. We hypothesized that the relationship between our trust measure and cost-related non-adherence would differ for those who say they have problems with prescription drug costs and those with high drug costs. Therefore, we first stratified our analyses based on agreement with the following statement: "I don't have any problems with medicine costs" (definitely true vs. somewhat true or not true). Second, we included an interaction term between our measure of trust in physicians to provide price information and the high out-of-pocket drug cost variable.

For all regression analyses, we used the SURVEYLOGISTIC procedure in SAS that incorporates complex survey sample designs, including those with stratification, clustering, and unequal weighting.

Results

Sample characteristics

Characteristics of the study sample are displayed in Table 1. Twenty-seven percent of 50–64 year olds reported incomes of \$2000 per month or less as did 25.8% of the elderly (19% and 31.9% of 50–64 year olds and those 65 and older, respectively, refused to answer the question). Few individuals in our study sample lacked health insurance (8% of 50–64 year olds were uninsured and 4.2% of the elderly were not enrolled in Medicare). Among Medicare beneficiaries, 73.4% had some form of drug coverage. Over half (55.2%) of individuals age 65 and older used 4 or more prescription medicines regularly compared to 43.4% of 50 to 64 year olds ($p<0.001$); however, out of pocket spending levels were similar in the two age groups (30.4% of 50–64 year olds, vs. 36.0% of those 65 and older, $p=0.533$).

Who do older consumers trust to provide information about medicines?

Almost two-thirds (61.7%) of respondents trusted pharmacists a lot to provide them information on the price of medicines while just over half (55.6%) said the same of physicians (Table 2). When asked about the best way to obtain more information about prescription medicines from their doctor, 80% said they would like to do so face-to-face during the course of an office visit and few favored the phone (5%) or email (1%) as a mode of receiving such information (not shown). Approximately 80% of respondents reported that they trusted their doctor "a lot" to provide information on how well a drug will work for them (drug effectiveness), and 66.4% reported that they trust pharmacists "a lot" to provide similar information (Table 2).

Trust in other information sources (nurses, health insurance plans, the Internet, consumer groups, friends and family) to deliver both types of information (price and effectiveness) was much lower than trust in physicians. For example, only 30.1% said they trust a nurse in their doctor's office a lot to provide price information ($p<0.0001$ for chi-2 test comparing trust in nurse with trust in doctor) and 38.0% of respondents said they trust a nurse to provide information on how well a drug works ($p<0.0001$) (Table 2). Similarly, approximately one-third of respondents said they trusted their health insurance plan to provide information on drug prices (33.3%) or effectiveness (29.0%) ($p<0.0001$ compared with trust in doctors).

Nearly half of respondents reported they did not trust the Internet at all to provide information on the prices of different medicines (45.8%) ($p<0.0001$) or comparative effectiveness (46.1%) ($p<0.0001$).

Predictors of trust in various sources to provide comparative drug price information

Results from multivariable models indicate that respondents age 65 and over were more likely than 50 to 64 year olds to trust their physician and insurance plan and less likely to trust the Internet to provide comparative price information (Table 3). Minorities were more likely than whites to trust their physician and a nurse in their doctor's office to provide such information. Well-educated individuals were more likely to trust *Consumer Reports* to provide comparative drug price information. Neither income nor prescription drug use/spending was associated with the likelihood of placing "a lot" of trust in the various information sources.

Trust in physicians, patient activation and views of physicians' roles in lowering drug costs

Only 20.1% of those who said they trust their doctor somewhat or not at all and 24.9% of those who said they trust their doctor a lot to provide prescription drug price information agreed that it is not their doctor's job to help with medicine cost issues (Table 4). Individuals who trust their doctor a lot to provide drug price information had more confidence in their doctor's ability to lower prescription medicine costs, although only half (51.0%) agreed with that statement, compared with 42.3% of those who trust their doctor somewhat or not at all to provide information on comparative ($p=0.01$). Individuals who trust their doctor a lot to provide price information were much more likely to agree that the medicines their doctor chooses are the least expensive (48.6% vs. 40.1%, $p=0.01$), and that they do whatever their doctor recommends (70.9% vs. 55.8%, $p<0.0001$). Approximately two-thirds of respondents said they know the different medical treatment options available for their condition and there were no statistically significant differences in responses to this question based on the level of trust in doctors to provide comparative price information.

Trust in physicians to provide comparative drug price information and cost-related non-adherence

Table 5 displays the odds ratios for the logistic regression models of any cost-related non-adherence stratified by whether individuals said it was "definitely true" (Model 1) vs. "somewhat true" or "not at all true" (Models 2 and 3) they do not have a problem with drug costs. One-fifth (18.8%) of those who agreed they did not have a problem with drug costs reported they failed to fill some prescriptions and/or skipped or reduced doses due to cost whereas 33.7% of their counterparts had such cost-related non-adherence (results not shown). Individuals with low-incomes, regardless of whether or not they said they had a problem with drug costs, were more likely to have cost-related non-adherence than those with higher incomes (Model 1: OR 2.74, 95% CI 1.34–5.59; Model 2: OR 1.77, 95% CI 1.06–2.96) (Table 5). Respondents with high out-of-pocket drug spending were also more likely to skip or reduce doses or fail to fill prescriptions regardless of whether they said they did (OR 2.21, 95% CI 1.43–3.41) (Model 2 in Table 5) or did not have a problem with drug costs (OR 3.00, 95% CI 1.51–5.95) (Model 1 in Table 5).

However, the estimate for the interaction term between out-of-pocket drug spending and our trust measure suggests that confidence in a doctor's ability to provide drug information may moderate the association between medication cost burden and cost-related non-adherence. Whereas high drug spending was a significant predictor of cost-related non-adherence among those with a low level of trust in physicians to provide price information (OR 3.94, 95% CI 2.04–7.61) odds of cost-related non-adherence did not differ by level drug spending among those who trusted their physicians a lot to provide this information (OR 1.41, 95% CI 0.80–2.48) (Model 3, Table 5). Likewise, among those with high drug costs, individuals who trust

their doctor a lot to provide information on comparative drug prices were less likely than their counterparts who only trust their doctors somewhat or not at all to have cost-related non-adherence (OR 0.40, 95% CI 0.21–0.78) (Model 3, Table 5).

Discussion

We found that older adults trust physicians and pharmacists far more than other sources to provide them information about the comparative effectiveness and prices of prescription medicines. However, it is notable that older adults place a much higher level of trust in the abilities of their physicians to deliver information on how well a drug works for them (80%) than the price of that drug (56%). Moreover, less than half of older adults believe there are ways for physicians to do something about the cost of prescription drugs.

That just over a majority of older adults trust physicians to provide price information is especially important given that we found that trust in physicians to deliver such information is associated with lower rates of cost-related non-adherence among those with high drug spending. Due to the cross-sectional nature of our study we cannot determine whether there is a causal relationship between trust in physicians to provide this information and cost-related non-adherence. However, confidence in physicians as a source of information on prescription drugs may create opportunities for and improve the quality of doctor-patient communication about medication adherence. Thom et al (1999) reported that patients with high levels of trust in their physicians, measured by the 11-item Trust in Physician Scale, had better self-reported medication adherence than those with low levels of trust although their adherence measure was not specific to costs.²¹ Our findings are also consistent with those of Piette and colleagues who found that individuals with diabetes and high out-of-pocket drug costs in the Veterans Affairs health care system had a significantly higher risk of cost-related non-adherence, compared to their counterparts with low drug spending, when trust levels were low (adjusted OR, 14.0) than when trust levels were high (adjusted OR, 4.8; test of equivalence, $p < 0.001$).²² Patient adherence behavior is affected by a number of factors other than trust in physicians and doctor-patient communication, including prescription drug advertising,³⁰ and patients' experiences with medication taking, among other factors.³¹ Trust in physicians as a broad concept has received limited attention from researchers in recent years.^{29,32, 33,34,21,35, 36,24} It has proven difficult to empirically measure discrete dimensions of trust, such as confidentiality, agency, competence, or information exchange. That is, items that tap these various dimensions tend to form a single scale in factor analyses.^{21,37,35, 36} Our goal was not to measure trust in any global sense, but rather to determine which information sources patients have confidence in to provide information about the efficacy and cost of prescription medications.

Physicians have a number of tools at their disposal to lower their patients' pharmacy costs without compromising the quality of clinical care. Among other things, they can increase their prescribing of generics,^{13, 38} prescribe lower cost therapeutic substitutes¹², or reduce the total number of drugs their patients are taking.^{38–40} However, several barriers prevent physicians from adopting these and other strategies. Studies indicate that less than one-third of the elderly and less than one-fifth of adults have discussed medication affordability with their doctors.^{41–44} Physicians have identified a number of key barriers to discussing drug costs with their patients including insufficient time (44.3%), concern over patient discomfort (35.0%) and lack of habit (33.9%).³⁸ In addition, even if doctor-patient discussions about medication costs occur, these discussions are but one factor affecting doctors' prescribing decisions. Physicians prescribing decisions are seldom guided by their patients' out-of-pocket costs for a particular drug or drug class due to substantial heterogeneity in formularies and cost-sharing across insurance products and the lack of information available to physicians at the point of prescribing. Widespread use of health information technology, specifically e-prescribing and decision-support systems could help improve physicians' access to this information. In fact,

e-prescribing programs equipped with formulary decision support functions have been shown to increase use of lower cost agents.⁴⁵ Unfortunately, studies indicate that only 15% of medical group practices had electronic health records in 2005 and only a subset of those practices had e-prescribing capability complete with drug formulary data.⁴⁶

The low levels of trust in sources other than physicians and pharmacists to provide comparative price information have important implications for efforts by third party payers to educate consumers on value-based purchasing of prescription drugs and other health care services. The success of these efforts may depend on the involvement of health professionals. Furthermore, third party payers will need to address age-related differences in trust in information sources. For example, we found that adults aged 65 and over were more likely than those 50 to 64 years old to report a high level of trust in their physicians and insurance companies to deliver drug price information.

Our paper has limitations that could affect its generalizability. Our respondents had slightly higher educational attainment and incomes than individuals 50 and older, nationally, and thus may not be representative of that population. However, the rates of cost-related non-adherence we report are virtually the same as those reported in other studies using identical question wording but different sampling methodologies.^{14, 27} Also, we assumed that individuals 50–64 years old with health insurance had coverage for prescription drugs. While 98% of insured individuals have prescription drug benefits⁴⁷ we may have mis-classified a small subset of individuals as having drug coverage. Among individuals 65 and older, 26.6% reported not having prescription drug coverage which is higher than the 9–10% estimate from Medicare Part D enrollment data.⁴⁸ This may be due to elderly respondents' inability to identify a source of drug coverage from the list we provided rather than from a true lack of drug coverage. Finally, one could argue that some telephone interview respondents may have been more likely to report trust in various sources -- if they believed that was the goal of the study -- in order to present themselves in a more favorable light to the interviewer. Thus, our overall levels of trust may be over-reported. However, there is no reason to believe that such bias affects the relative trust levels in physicians versus pharmacists and other sources of information on drug pricing and effectiveness. Therefore, our major findings should be unaffected.

Conclusions

Older adults are much more likely to trust their physicians and pharmacists than any other source to provide information on the medicines they are taking. And higher levels of trust in physicians' abilities to provide comparative drug price information were associated with a reduced risk of skipping or reducing doses of medication among older adults with high drug costs. Programs to provide consumers with information on the cost and quality of prescription drugs that use health professionals as conduits may help to reduce cost-related non-adherence of prescription drugs.

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Table 1

Descriptive statistics on survey sample

Describe your sources on survey sample						
	percent					
	50-64 year old			65 and over		
	Male	Female	Total	Male	Female	p- Totalvalue**
Mean age	56.7	56.4	56.5	74.2	74.7	74.4<0.0001
Married	67	54	60	67	33	50<0.0001
Race and ethnicity						
Non-hispanic, White	85.2	84.0	84.6	86.8	87.3	87.0
Non-hispanic, Black	3.2	8.0	5.6	4.0	4.0	4.0
Hispanic or Latino	4.4	3.6	4.0	3.2	4.8	4.0
Othervalue*	6.4	4.4	5.4	5.2	2.8	4.0
Education						
Grade School	3.2	2.0	2.6	6.0	8.4	7.2
High school	28.4	35.6	32.0	31.2	45.0	38.1
College	37.2	42.0	39.6	33.6	31.1	32.3
Post-graduate or professional	30.8	20.4	25.6	28.4	14.7	21.6
Refused	0.4	.	0.2	0.8	0.8	0.8
Monthly income						
Less than \$1000	11.2	14.0	12.6	5.2	13.9	9.6
\$1001 to \$2000	12.0	16.8	14.4	10.8	21.5	16.2
\$2001 to \$3000	12.4	12.8	12.6	17.2	13.2	15.2
\$3001 to \$4000	12.0	14.4	13.2	8.8	5.6	7.2
\$4001 to \$6000	6.4	12.4	9.4	13.6	4.0	8.8
\$6001 and above	24.0	13.6	18.8	16.8	5.6	11.2
Refused	22.0	16.0	19.0	27.6	36.3	31.9
Uninsured	9.2	6.8	8.0	--	--	--
Medicare	--	--	--	94.4	97.2	95.8
Sources of drug coverage among Medicare beneficiaries						
Medicare drug plan				24.4	29.1	26.8
Former employer or union Pharmacy assistance plan				21.6	21.1	21.4
Veteran's administration				6.8	4.8	5.8
Medicare HMO or PPO				14.4	2.4	8.4
No source of drug coverage				24.0	21.1	22.6
				21.6	31.5	26.6
Total number of prescription medicines						
1	19.3	20.1	19.7	10.1	10.8	10.4
2 to 3	39.0	34.9	37.0	33.9	35.1	34.5
4 to 5	20.1	17.7	18.9	29.0	25.1	27.1
6 or more	21.7	27.3	24.5	27.0	29.1	28.1
Monthly out-of-pocket drug spending						

	percent					p- Totalvalue**
	50-64 year old					
	Male	Female	Total	Male	Female	
less than \$1	9.5	4.9	7.2	5.9	6.3	6.1
\$1-\$20	23.4	25.3	24.4	17.8	18.1	18.0
\$21-\$50	27.2	26.5	26.9	24.4	29.4	27.1
\$51-\$75	12.0	10.5	11.3	16.3	10.0	12.90.533
\$76-\$100	10.8	11.7	11.3	16.3	6.9	11.2
\$101-\$300	12.0	16.7	14.4	13.3	20.6	17.3
More than \$300	5.1	4.3	4.7	5.9	8.8	7.5

* "Other" includes Asian, native Hawaiian or Pacific Islander, American Indian or Alaskan Native

Chi-2 tests for differences by age

Older adults trust in the following sources to give them information on prescription medicines

Table 2

	percent					
	Price of the medicine ^a			How well a drug works for you ^b		
	Not at all	Somewhat	A lot	Not at all	Somewhat	A lot
Doctor	11.6	32.8	55.6	2.8	17.3	79.9
Pharmacist	8.8	29.5	61.7	7.7	25.8	66.4
Nurse at doctor's office	29.0	40.9	30.1	18.5	43.5	38.0
Your health insurance plan	25.9	40.8	33.3	33.1	37.9	29.0
The Internet	45.8	41.8	12.3	46.1	39.2	14.6
AARP	35.0	42.9	22.1	36.0	42.7	21.4
Consumer Reports magazine or website	30.3	42.2	27.6	32.9	41.4	25.8
Friends and family	39.2	43.4	17.4	42.7	39.4	17.9

^aHow much would you trust each of the following sources to give you helpful information on the price of the prescription medicine compared to other medicines like it? Would you say a lot, somewhat or not at all?

^bHow much would you trust each of the following sources to give you helpful information on how well the prescription medicine will work for you compared to other medicines like it? Would you say a lot, somewhat or not at all?

* p-value <0.01

p-value <0.0001 for Chi-2 test comparing percent who say they trust their doctor "a lot" to provide information with percent who they trust other sources "a lot"

Table 3

Multivariable models predicting trust in various information sources to provide information on price of prescription medicines

Adjusted Odds ratios for trusts source "A LOT"	Physician	Pharmacist	Nurse	Insurance Plan	Internet	AARP	Consumer Reports
Age 65+	1.44 (1.08-1.92)	0.80 (0.60-1.07)	1.24 (0.90-1.70)	1.62 (1.19-2.19)	0.51 (0.31-0.83)	0.93 (0.65-1.32)	0.79 (0.57-1.09)
Female	0.84 (0.63-1.10)	1.20 (0.90-1.60)	1.00 (0.73-1.36)	1.17 (0.86-1.58)	0.92 (0.60-1.42)	1.13 (0.80-1.60)	1.22 (0.89-1.67)
Race = other	1.72 (1.13-2.61)	0.78 (0.52-1.17)	1.61 (1.07-2.42)	0.88 (0.57-1.35)	1.39 (0.79-2.43)	1.28 (0.80-2.06)	0.93 (0.58-1.48)
College or post-graduate	0.97 (0.72-1.30)	1.13 (0.84-1.52)	0.80 (0.59-1.10)	0.80 (0.59-1.09)	1.13 (0.70-1.83)	0.79 (0.55-1.13)	1.49 (1.06-2.09)
Married	0.74 (0.55-0.99)	1.13 (0.84-1.53)	1.08 (0.78-1.51)	0.93 (0.67-1.27)	0.81 (0.52-1.27)	0.88 (0.61-1.25)	0.90 (0.65-1.25)
Low income	1.18 (0.82-1.69)	0.95 (0.66-1.37)	1.44 (0.97-2.14)	1.21 (0.83-1.75)	0.94 (0.54-1.64)	1.23 (0.80-1.89)	0.67 (0.44-1.02)
Income missing	1.21 (0.85-1.71)	0.77 (0.54-1.09)	1.30 (0.89-1.89)	0.87 (0.59-1.27)	0.63 (0.35-1.15)	1.29 (0.84-1.97)	0.93 (0.63-1.37)
High number of drugs ^a	1.01 (0.75-1.36)	1.04 (0.78-1.40)	1.02 (0.74-1.40)	1.23 (0.90-1.68)	0.71 (0.45-1.13)	0.77 (0.54-1.11)	0.79 (0.57-1.09)
High drug spending ^b	0.86 (0.62-1.20)	1.06 (0.76-1.43)	1.04 (0.72-1.49)	0.92 (0.64-1.31)	1.41 (0.83-2.38)	1.19 (0.79-1.80)	1.05 (0.72-1.54)
Lacks prescription drug coverage	1.08 (0.74-1.58)	0.98 (0.67-1.43)	0.75 (0.49-1.15)	0.63 (0.42-0.94)	1.15 (0.62-2.16)	0.64 (0.39-1.06)	1.05 (0.68-1.62)

bolded results are statistically significant at p<0.05 level

^a high number of drugs = 4 or more, individuals taking 3 or fewer drugs are the reference category

^b High drug spending = \$76 in out-of-pocket costs per month or more

Table 4

Bivariate associations between beliefs about physicians' roles and patient involvement, and trust in physicians to provide prescription drug price information

	Trusts doctor somewhat or not at all	Trusts doctor a lot	p-value
Which of the following describes how you feel about talking with your doctor about prescription medicine costs? (% saying definitely true vs. somewhat true or not true)			
It's not my doctor's job to help with medicine cost issues	20.1	24.9	0.08
There are ways that doctors can help lower my prescription medicine costs	42.3	51.0	0.01
Please tell me whether you completely agree, partly agree, or disagree with each of the following: (% saying completely agree)			
The medicines my doctor chooses for me are the least expensive	40.1	48.6	0.01
I do whatever my doctor recommends	55.8	70.9	<0.0001
I know the different medical treatment options available for my condition	59.6	65.5	0.58

Table 5

Odds Ratios for Any Cost Related Non-Adherence

	Model 1			Model 2			Model 3		
	Point Estimate	95% Wald Confidence Limits		Point Estimate	95% Wald Confidence Limits		Point Estimate	95% Wald Confidence Limits	
Said it was definitely true that they don't have a problem with drug costs									
Said it was somewhat true or not at all true that they don't have a problem with drug costs									
65 years and older	0.571	0.312	1.045	0.89	0.58	1.38	0.95	0.61	1.47
female	1.302	0.735	2.306	1.16	0.77	1.74	1.17	0.78	1.76
Non-white	1.269	0.61	2.64	1.57	0.90	2.72	1.58	0.91	2.75
Some college	1.359	0.77	2.399	0.74	0.47	1.15	0.70	0.45	1.09
Married	0.997	0.533	1.864	1.22	0.79	1.89	1.26	0.81	1.97
Low income	2.738	1.341	5.588	1.77	1.06	2.96	1.72	1.02	2.89
Missing income data	1.322	0.635	2.755	0.95	0.57	1.60	0.95	0.57	1.60
High number of drugs	1.092	0.589	2.026	1.59	1.05	2.42	1.59	1.05	2.42
High drug spending	2.995	1.507	5.952	2.21	1.43	3.41			
Lacks drug coverage	0.88	0.428	1.808	0.67	0.38	1.20	0.62	0.34	1.12
Trusts doctor "a lot" to provide info on price	0.711	0.407	1.243	0.77	0.51	1.14			
Trust doctor a lot to provide information on price (vs. somewhat/not at all) among those with high drug spending							0.40	0.20	0.78
Trust doctor a lot to provide information on price (vs. somewhat/not at all) among those with low drug spending							1.11	0.67	1.84
High drug spending (vs. low spending) among those who trust doctors a lot							1.41	0.80	2.48
High drug spending (vs. low spending) among those who trust doctors somewhat or not at all							3.94	2.04	7.61

^a high number of drugs = 4 or more, individuals taking 3 or fewer drugs are the reference category

^b High drug spending = \$76 in out-of-pocket costs per month or more