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Health Care Avoidance Among Rural Populations: Results From a Nationally Representative Survey

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Abstract

Background—Previous research suggests that certain populations, including rural residents, exhibit health care avoidant behaviors more frequently than other groups. Additionally, health care avoidance is related to sociodemographics, attitudes, social expectations, ability to pay for care, and prior experiences with providers. However, previous studies have been limited to specific geographic areas, particular health conditions, or by analytic methods.

Methods—The 2008 Health Information Trends Survey (HINTS) was used to estimate the magnitude of health care avoidance nationally and, while controlling for confounding factors, identify groups of people in the US who are more likely to avoid health care. Chi-square procedures tested the statistical significance ($P < .05$) of bivariate relationships. Multivariable analysis was conducted through a weighted multiple logistic regression with backward selection.

Results—For 6,714 respondents, bivariate analyses revealed differences ($P < .05$) in health care avoidance for multiple factors. However, multiple regression reduced the set of significant factors ($P < .05$) to rural residence (OR=1.69), male sex (OR=1.24), younger age (18-34 years OR=2.34; 35-49 years OR=2.10), lack of health insurance (OR=1.43), lack of confidence in personal health care (OR=2.24), lack of regular provider (OR=1.49), little trust in physicians (OR=1.34), and poor provider rapport (OR=0.94).

Conclusion—The results of the current study will help public health practitioners develop programs and initiatives targeted and tailored to specific groups, particularly rural populations, which seek to address avoidant behavior, thereby reducing the likelihood of adverse health outcomes.

Keywords

avoidance; health care; HINTS; physician; utilization of health services

Avoidance and delay are often used to describe the psychological and physical aversion to something that causes distress.[1] According to Byrne, “avoidance is marked by a turning away from threat-related cues, which are either psychological or physiologic in origin,” while the term delay adds a temporal component to avoidance.[1] Delay or avoidance of

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health care has been reported to lead to poorer health outcomes, including the increased likelihood of late-stage breast cancer diagnosis,[2] mortality from HIV,[3] wasting and high levels of C-reactive proteins among children,[4] and acute symptoms for heart disease.[5] In addition, delay or avoidance of health care is associated with decreased rates of cancer screening, increased cost of hospitalization, and transmission of sexually transmitted diseases.[1,4,6] However, contrary to previously cited research, Rupper (2004) reported that a delay in health care did not increase the 3-year mortality hazard ratio or functional decline among a cohort of 4,162 community-dwelling elderly in North Carolina.[7] The reasons why people may delay or avoid health care are complex and have been examined through multiple health behavior and health care utilization theories.[1,8] Previous studies have related this behavior to sociodemographic factors, personal preferences and attitudes, social and work expectations, ability to pay for health care, and prior perceived experiences with health care providers.[1-6,8]

Previous research has also reported that certain population groups exhibit avoidant behavior more frequently than do other groups.[2,3,9,10] However, these studies have been limited to specific geographic areas, to particular health conditions, or in their analytic methods. For example, in a community-based survey of a convenience sample of 699 women in the San Francisco area, Facione et al (2002) found that non-Latino black women and women with lower education and income levels were more likely to delay health care for breast cancer symptoms.[2] The authors suggested that delay may be attributable to alienation from health care services or fatalism. In a 1995 population-based study that was limited to the Detroit area, health care avoidance was associated with being African American, male, and having lower education levels; specifically, Moore et al reported that lower perceived quality of the patient-physician relationship increased health care avoidance.[9] A retrospective cohort study of HIV patients in the Veterans Administration from 1998-2006 found that patients residing in a rural region were more likely to delay or avoid health care, which may be due to increased stigma in rural areas.[3] In one of few studies using data from a national survey, Vanderpool and Huang (2010) reported that people who resided in Appalachia were more likely to avoid health care than those who did not reside in Appalachia. However, the analytic methods for this study were limited to bivariate analyses.[10] A second study of national data found that a patient's fiduciary trust in the physician (a patient's belief that the physician will act in the patient's best interest and not take advantage of the patient's vulnerability) was negatively associated with delayed health care, but that the relationship was attenuated for poor, uninsured, African American, and Hispanic respondents.[11]

The objectives of the current study were to: 1) estimate the overall magnitude of health care avoidance in the United States; and 2) while controlling for confounding factors, identify the risk of reporting this behavior for members of specific sociodemographic groups, including those residing in rural communities. Specifically, we hypothesized that residents in rural areas may exhibit health avoidant behavior more than residents of urban areas. This hypothesis was guided by the Behavioral Model of Health Services Use, which asserts health care utilization and subsequent health outcomes are influenced by both contextual and individual-level determinants,[12] aligning with Byrne's (2008) critical analysis of the health care avoidance literature and Phillips and McLeroy's (2004) explanation of rural health disparities.[1,13] As an example of context, many rural communities are characterized by higher concentrations of ethnic minorities, persistent poverty, historical discrimination, poor health care infrastructure, and designation as health professional shortage areas by the federal government.[14,15] Similarly, rural residents may have further distances to travel for care due to physical terrain compared to their urban counterparts.[13,15-17] Regarding individual or compositional determinants such as demographics, rural residents tend to be older, of lower socioeconomic status, and reliant on governmental health insurance or uninsured compared to urban individuals.[18] Personal health practices of rural residents (eg,

increased rates of smoking, physical inactivity, poor diet; decreased rates of health information-seeking) and their health beliefs (eg, fatalistic attitudes, perceived negative health) may also influence health care avoidance.[19-21] Additionally, rural residents may avoid care for health conditions that they perceive are more stigmatizing (eg, mental health disorders, substance abuse, sexually transmitted infections).[22] Moreover, in some instances, rural residents have reported greater difficulties in navigating the health care system, poorer patient-provider relationships (primarily due to mistrust), and lack of culturally competent health care services, which in turn influences their overall satisfaction with the health care system[23-25]

METHODS

The study design was a secondary data analysis of the 2008 Health Information Trends Survey (HINTS), a nationally representative cross-sectional survey of US adults, conducted by the National Cancer Institute (NCI). The purpose of the HINTS survey is to assess the health communication attitudes and behaviors of the adult US population. The data were collected between January and April 2008 through the use of a dual-frame design employing telephone and mail questionnaires. The overall response rate for the telephone or random-digit-dial sample was 24.2%, and it was 30.9% for the mailed questionnaires. The methods for the 2008 HINTS are reported elsewhere.[26]

The dependent variable in this analysis was health care avoidance, which was measured by answering “true” or “not true” to the following question: “Some people avoid visiting their doctor even when they suspect they should. Would you say this is true for you or not true for you?” The independent variables included sociodemographic factors (ie, sex, age, race, household income, education level, marital status, health care coverage, rural-urban continuum code), personal health factors (ie, body mass index, psychological distress, confidence in ability to take care of one’s own health, use of alternative therapies, general health level) and patient-provider factors (ie, presence of a regular provider, quality of health care, trust in health care providers, confidentiality of health information, ability to ask questions of the provider, provider attention to feelings, involvement in health care decisions, patient understanding of recommendations, provider assistance in managing health uncertainty, reliability of provider to take care of health needs). The rural-urban continuum code was collapsed into 3: metropolitan, urban/suburban, and rural. The rural populations are defined as a nonmetro county completely rural or less than 2,500 urban population that is or is not adjacent to a metro area.[27] Please refer to the HINTS website for question wording and response options.[28]

All analyses were conducted in 2012 and performed using complex survey commands in SAS 9.3® (SAS Institute Inc., Cary, North Carolina). Responses of “refuse or “don’t know” were recoded as unknown. Participants who did not indicate a true/not true response for health care avoidance were eliminated from the analysis. The analysis did not include individuals who did not visit a physician within the past 12 months because they were not asked a significant portion of the independent variables of interest (eg, factors related to a provider encounter within the previous 12 months). Additionally, those who did not visit a physician within the past 12 months may not have had access to a physician and thus would not necessarily be able to exhibit short-term avoidance (delay). Ultimately, our analysis sample is reflective of a population that had some form of health care access in the past year, but that may have been influenced by additional compositional and contextual characteristics that further impeded health care utilization.

The exclusion of respondents who did not visit a physician in the past 12 months can potentially bias the parameter estimates. However, estimates from the restricted sample

(excluding these individuals) will not be subject to bias if the probability of missingness or exclusion from the sample depends only on the predictor variables.[29] In order to test this possibility, we used a multivariable logistic regression that predicted missingness by using health care avoidance as one of the predictors. We found no significant association between missingness and health care avoidance (OR=0.89; $P = .294$). The non-significant test suggests that slope estimates can be extended to the broader sample without bias.

Due to the nature of the dual-frame sampling for the survey, mode differences were tested and found to have no significant differences. Therefore, a combined sample with weights, provided by HINTS, was employed in this study. Second-order Rao-Scott Chi-square test statistics incorporating the jackknife replication weight design in the HINTS were utilized to test for statistical significance ($P < .05$) of bivariate relationships for all independent variables.[30]

An exploratory factor analysis (EFA) was conducted to reduce the number of patient-provider factors and reduce existing mulitcollinearity among the variables. A polychoric correlation matrix of patient-provider variables was used. The factors were extracted using the Unweighted Least Square method (ULS); the number of factors in the model was selected through a scree plot, and a varimax orthogonal rotation was conducted. The polychoric correlations were calculated by incorporating the survey weights.

Multivariable analysis was conducted through a weighted multiple logistic regression with backward selection. Backward selection consisted of successively eliminating variables with the highest *P* value that exceeded a threshold of .05.

RESULTS

The 2008 HINTS comprised data collected from 7,674 respondents. Of these respondents, 125 did not provide a true/not true response to indicate whether they avoided health care. In addition, 835 respondents who did not visit a physician within the past 12 months were eliminated from the study sample, resulting in a final analytic sample size of 6,714.

Almost 34% (n=1,930) of the survey respondents reported that they avoid seeing a health care provider when they suspect something is wrong (Table 1). With the exception of body mass index (BMI), all bivariate comparisons of health care avoidance by sociodemographic and personal health factors were significantly different ($P < .05$).

Bivariate analyses of the patient-provider factors with health care avoidance resulted in significant differences for all independent variables (Table 2). Respondents with a regular provider ($P < .0001$), who trust information from their doctor ($P < .0001$), and who believe that their health information is safely guarded ($P = .0003$) were less likely to report health care avoidance. Similarly, individuals who report positive interactions with their health care provider, such as having the chance to ask questions ($P < .0001$) and being involved in health care decisions ($P < .0001$), were less likely to avoid health care.

Based on the results of the EFA, a proposed scale for provider rapport which sum-scored the ordinal responses of 7 highly correlated items was used as an independent variable in the multivariable analysis in place of individual items. The EFA resulted in the extraction of 3 factors with the rotated Factor 1 explaining 65% of the total item communality, Factor 2 explaining 19% and Factor 3 explaining 16%. All 3 factors (sum of item communalities) explained 52% of the total item variation. Seven items loaded on the first factor particularly highly (0.69-0.88), with the remaining provider rapport items either loading on the other factors (>0.40), or having noticeably lower item communalities. A follow-up Factor model on the 7 items, using the same methods as the first model, resulted in a single model with

only one Factor, which explained 73% of the total item variation. Item loadings for this factor ranged from 0.81 to 0.88. The 7 items consisted of the following: 1) ability to ask questions of the provider, 2) provider attention to feelings, 3) involvement in health care decisions, 4) patient understanding of recommendations, 5) provider assistance in managing health uncertainty, 6) reliability of provider to take care of health needs, and 7) quality of health care. These 7 items were combined to create a "provider rapport" scale from the sum score of the ordinally scored item responses. Imputation of the provider rapport scale was conducted for participants with less than 25% missing responses. The score for each of the 7 independent variables was 1, 2, or 3 with 3 indicating the most positive/favorable response. The final provider rapport scale ranged from 7 to 21 with a mean of 19.22 (SD= 2.82) and a Cronbach's Alpha of 0.87.

After incorporating the provider rapport scale and other independent variables that were significant in the bivariate analyses, backward selection revealed a final model consisting of 8 factors (Table 3). The sociodemographic variables that were associated with increased likelihood to avoid health care were: male sex (OR: 1.24; 95% CI: 1.04-1.47), respondents in younger age groups (18-34 years: OR: 2.34; 95% CI: 1.65-3.31) (35-49 years: OR: 2.10; 95% CI: 1.59-2.79), individuals without health care coverage (OR: 1.43; 95% CI: 1.07-1.92), and respondents residing in a rural county (OR: 1.69; 95% CI: 1.03-2.77). Respondents' confidence in their ability to take care of their own health was the only personal health factor significantly associated with health care avoidance. Respondents who were not at all confident in their ability to take care of their health were 2.24 times (95% CI: 0.76-6.62) more likely to avoid health care than respondents who were completely/very confident. The patient-provider factors that were associated with increased likelihood to avoid health care were: respondents who did not have a regular provider (OR: 1.49; 95% CI: 1.21-1.85), respondents who did not trust health information from their doctor (OR: 1.34; 95% CI: 1.05-1.72), and respondents who scored lower on the provider rapport scale (OR: 0.94; 95% CI: 0.91-0.98).

Contrary to previously reported findings, race and income were not significant in the final multivariable logistic regression model.[2,9,11,31] By following Barron and Kenny methods to establish mediation, the provider rapport score was found to be a possible partial mediator of the relationship between race and income and health care avoidance.[32] This partial mediation poses a potential reason for the non-significance of race and income in the adjusted multivariable model. The odds ratio of health care avoidance between black and white respondents unadjusted for provider rapport was OR=1.49 (95% CI: 1.14-1.95); after adjustment it was OR = 1.38 (95% CI: 1.03-1.85). The unadjusted odds ratio of health care avoidance between the highest and lowest income level was OR = 1.49 (95% CI: 1.16-1.91) and after adjustment it was OR = 1.32 (95% CI: 1.02-1.73).

DISCUSSION

Using nationally representative data from the 2008 HINTS, this study assessed the self-reported prevalence of health care avoidance in the US. Overall, a third of respondents indicated that they "avoided visiting their doctor even when they suspected they should," which is higher than previously documented in the literature.[2,4,11] In accordance with previous research, we found significant bivariate differences in health care avoidance by area of residence, sex, race, income, education, health care coverage, and quality of the patient-provider relationship.[1-6,8-11]

Consistent with our hypothesis, this study found that after controlling for confounding factors, rural residents were 1.7 times more likely to report avoidance in comparison to respondents residing in a metropolitan area. While our study sample reported having a

physician's visit in the past 12 months, there are important contextual and individual-level determinants that should also be considered in addition to access to care. For example, the health care system in rural areas is often uncoordinated, consisting of small, independent primary care offices, county health departments, federally supported community clinics, and small hospitals.[18] Additionally, specialty providers have relatively low presence in rural communities, limiting residents' access to specialized care and technology. Addressing the overall shortage of health services and clinicians in rural communities is a national priority.[17] Similarly, resolving transportation, insurance, socioeconomic barriers and improving health care infrastructure in rural areas may increase rural residents' use of medical care. Additional barriers such as stigma, lack of privacy, lack of culturally appropriate interventions, and acceptance of poor health have been documented in rural communities.[33] Along with the call for national changes to the availability and accessibility of health services in rural areas, interventions focused on improving attitudes towards health and health care along with assurances for confidentiality and trusting patient-provider relationships, could aid in reducing health care avoidant behaviors among rural populations.

A more extensive analysis revealed that among the sociodemographic characteristics, males, respondents in younger age groups, and those without health care coverage were more likely to avoid health care. Previous research suggests women have higher health-seeking behaviors than men.[34] This may be due to social norms or provider-related factors such as women reporting more satisfactory levels of respect from their physician.[9,34] Intuitively, it is easy to understand why individuals without health insurance are less likely to access the health care system. Related, lack of health insurance may be a primary determinant of younger individuals not seeking health care. Approximately 36% of adults under the age of 45 years are uninsured, with younger adults ages 25-34 years least likely to have health insurance (24%).[35] Additionally, personal and patient-provider factors such as a lack of confidence in the ability to take care of one's health, the absence of a regular provider, no or little trust in information from the provider, and poor provider rapport were all associated with increased odds of health care avoidance. Lower perceived self-efficacy, a lack of medical home, medical mistrust, and a poor communicative relationship with providers collectively point to reasons why an individual would not seek health care services, even when needed. Recently, proposed federal health care reform initiatives aim to address health insurance coverage, particularly in younger adults.[36] Further, there is a national agenda promoting the establishment of and accessibility to patient-centered medical homes and growing recognition of the importance of patient-provider communication on health-related decision-making, health behaviors, disease outcomes, and medical costs.[37-39]

Limitations

The HINTS is a cross-sectional survey of US adults and is therefore unable to determine causality and is subject to non-response bias. However, the employment of a dual sampling frame helps to counteract non-response bias. Recall bias may be present when identifying behaviors and provider interactions over the past 12 months. Additionally, participants who did not visit a physician within the past 12 months were excluded from the analysis. However, analyses of missingness suggest that the exclusion was a viable option for characterizing health care avoidance. Furthermore, HINTS does not explicitly address the type of health care provider (eg, primary care, OB/GYN, internal medicine, cardiologist) that may have been avoided. Lastly, HINTS is only able to measure an individual's self-perceived avoidance of health care; this construct may be different from their actual observed behaviors.

CONCLUSIONS

Analysis of nationally representative data from the 2008 HINTS found sociodemographic, personal health and patient-provider factors that are significantly associated with health care avoidance. In particular, residence in a rural area indicates an increased risk for health care avoidance even after controlling for other factors. These results suggest the need for targeted public health initiatives for specific population groups (eg, rural populations) in order to reduce the likelihood of adverse health outcomes. Furthermore, research is needed to explore the effects of different types of health care providers on health care avoidance and characterize the avoidant behaviors in rural populations. Qualitative research may further illuminate individuals' multifaceted rationale for avoiding health care, even when care is needed. Finally, a longitudinal study would be necessary to confirm suspected temporal changes in avoidance.

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Table 1

Bivariate Analysis of Sociodemographic and Personal Health Factors by Self-Reported Health Care Avoidance, HINTS 2008

			Health Care Avoidance								
	Total (n=6714)		Yes (n=1930)				No (n=4784)				
	n	%	n	%	Lower 95% CI	Upper 95% CI	n	%	Lower 95% CI	Upper 95% CI	*P* value
Total	6714	100	1930	33.9	N/A	N/A	4784	66.1	N/A	N/A	N/A
Sociodemosranhic Factors											
Sex											
Male	2469	45.0	762	49.2	46.30	52.04	1707	42.8	41.46	44.23	<.01
Female	4238	55.0	1167	50.8	47.96	53.70	3071	57.2	55.77	58.54	
Unknown	7										
Age Group											
18-34	897	28.6	325	33.7	30.41	37.02	572	26.0	24.18	27.88	<.01
35-49	1523	28.3	513	31.0	28.33	33.63	1010	27.0	25.50	28.45	
50-64	2179	24.5	652	23.2	21.15	25.23	1527	25.1	23.94	26.35	
65-74	1112	9.4	240	6.8	5.84	7.77	872	10.8	10.23	11.39	
75+	935	9.1	177	5.3	4.30	6.32	758	11.0	10.42	11.66	
Unknown	68										
Race/Ethnicity											
Hispanic	485	10.8	166	13.5	11.06	16.03	319	9.4	8.25	10.57	.02
Non-Hispanic white	4924	72.3	1383	70.6	68.17	73.09	3541	73.1	71.53	74.71	
Non-Hispanic black	606	11.0	180	10.6	8.60	12.57	426	11.2	10.17	12.30	
Other/Multi-Race	348	5.9	119	5.2	4.16	6.32	229	6.2	5.34	7.14	
Unknown	351										
Household Income											
<$20,000	956	18.1	335	20.8	17.42	24.14	621	16.7	14.89	18.50	.02
$20,000 to <$35,000	909	16.1	282	17.5	14.35	20.58	627	15.4	13.84	17.04	

			Health Care Avoidance								
	Total (n=6714)		Yes (n=1930)				No (n=4784)				
	n	%	n	%	Lower 95% CI	Upper 95% CI	n	%	Lower 95% CI	Upper 95% CI	*P* value
$35,000 to <$50,000	774	14.4	238	15.2	12.60	17.84	536	13.9	12.20	15.65	
$50,000 to <$75,000	1070	19.4	310	18.2	15.41	21.06	760	20.0	18.19	21.88	
$75,000 +	1870	31.9	490	28.3	25.10	31.50	1380	33.9	31.72	36.08	
Unknown	1135										
Education											< .01
Less than high school	558	12.7	215	14.8	12.31	17.22	343	11.6	10.63	12.65	
High school graduate	1567	25.8	488	27.6	24.73	30.51	1079	24.9	23.61	26.18	
Some college	1935	35.5	582	35.9	33.32	38.51	1353	35.3	33.99	36.66	
College graduate	2413	25.9	591	21.7	19.95	23.45	1822	28.1	27.23	29.04	
Unknown	241										
Marital Status											
Married/Living as Married	3871	57.7	1074	54.4	51.44	57.42	2797	59.4	57.72	61.01	.02
Divorced/Widowed/ Separated/Single, Never Married	2596	42.3	802	45.6	42.58	48.56	1794	40.6	38.99	42.28	
Unknown	247										
Healthcare Coverage											
Yes	6071	88.4	1647	82.5	79.94	85.07	4424	91.4	90.10	92.80	< .01
No	555	11.6	251	17.5	14.93	20.06	304	8.6	7.20	9.90	
Unknown	88										
Rural-Urban Continuum Code											
Metropolitan	5428	82.1	1499	78.8	75.49	82.20	3929	83.8	81.98	85.54	.01
Urban/Suburban	1143	15.8	379	18.3	15.42	21.15	764	14.5	12.77	16.22	

	Total (n=6714)		Health Care Avoidance								
			Yes (n=1930)				No (n=4784)				
	n	%	n	%	Lower 95% CI	Upper 95% CI	n	%	Lower 95% CI	Upper 95% CI	*P* value
Rural	143	2.1	52	2.9	1.61	4.14	91	1.7	1.12	2.36	
Personal Health Factors											
Body Mass Index (BMI)											
Underweight	402	2.0	33	1.9	1.08	2.78	73	2.0	1.22	2.75	.29
Normal	2211	34.8	585	32.6	28.94	36.21	1626	35.9	33.43	38.33	
Overweight/Obese	4101	63.3	1225	65.5	61.76	69.23	2876	62.1	59.65	64.62	
Unknown	296										
Psychological Distress Composite Score											
Not Distressed (score = 0-12)	5935	92.2	1646	87.8	85.09	90.60	4289	94.5	93.16	95.79	< .01
Distressed (score = 13-24)	368	7.8	182	12.2	9.40	14.91	186	5.5	4.21	6.84	
Unknown	411										
In general, would you say your health is:											
Excellent/Very Good	3129	46.6	755	41.0	37.12	44.80	2374	49.6	47.31	51.83	< .01
Good	2286	36.8	722	39.1	36.20	41.90	1564	35.6	33.42	37.75	
Fair/Poor	1059	16.6	396	20.0	17.27	22.71	663	14.8	13.02	16.66	
Unknown	240										
Overall, how confident are you about your ability to take good care of your health?											
Completely or Very Confident	4791	69.5	1078	56.1	52.73	59.40	3713	76.3	74.48	78.16	< .01
Somewhat or A Little Confident	1796	29.1	781	41.6	38.45	44.73	1015	22.8	20.88	24.70	

			Health Care Avoidance								
	Total (n=6714)		Yes (n=1930)				No (n=4784)				
	n	%	n	%	Lower 95% CI	Upper 95% CI	n	%	Lower 95% CI	Upper 95% CI	*P* value
Not at all Confident	71	1.4	41	2.3	1.02	3.66	30	0.9	0.43	1.35	
Unknown	56										
During the past 12 months, did you use any complementary, alternative, or unconventional therapies?											
No	4843	73.3	1350	70.6	67.43	73.78	3493	74.7	72.76	76.64	.02
Yes	1819	26.7	563	29.4	26.22	32.57	1256	25.3	23.36	27.24	
Unknown	52										

Table 2

Bivariate Analysis of Patient-Provider Factors by Self-Reported Health Care Avoidance, HINTS 2008

			Health Care Avoidance								
	Total (n=6714)		Yes(n=1930)				No (n=4784)				
	n	%	n	%	Lower 95% CI	Upper 95% CI	n	%	Lower 95% CI	Upper 95% CI	*P* value
Not including mental health professions is there a health professional that you see most often?											
No	1038	22.5	428	30.9	27.43	34.30	610	18.2	16.28	20.19	< .01
Yes	5617	77.5	1479	69.1	65.70	72.57	4138	81.8	79.81	83.72	
Unknown	59										
Overall, how would you rate the quality of health care you received in the past 12 months?[a]											
Excellent/Very Good	5020	70.5	1199	58.1	54.70	61.52	3821	76.9	75.06	78.65	< .01
Good	1209	20.4	482	26.9	23.57	30.17	727	17.1	15.54	18.72	
Fair/Poor	447	9.1	236	15.0	12.43	17.62	211	6.0	4.78	7.26	
Unknown	38										
How much would you trust information about health or medical topics from your doctor?											
A lot	4692	70.3	1182	62.6	58.85	66.30	3510	74.2	72.37	76.06	< .01
Some	1690	25.0	617	31.5	27.81	35.22	1073	21.6	19.80	23.39	
A little	247	4.2	103	5.4	3.76	7.10	144	3.5	2.68	4.37	
Not at all	38	0.6	14	0.5	0.16	0.80	24	0.7	0.09	1.23	
Unknown	47										
In general, I think that the information I give doctors is safely guarded.											
Agree	5882	88.6	1606	85.1	82.41	87.72	4276	90.5	88.94	92.04	< .01
Disagree	723	11.4	300	14.9	12.28	17.59	423	9.5	7.96	11.06	
Unknown	109										
In the past 12 months, how often did you feel you could rely on your health care providers to take care of your health needs?[a]											
Always/Usually	5790	84.1	1496	76.4	73.59	79.20	4294	88.1	86.46	89.75	< .01
Sometimes	755	13.4	352	19.5	16.73	22.35	403	10.2	8.63	11.79	

			Health Care Avoidance								
	Total (n=6714)		Yes(n=1930)				No (n=4784)				
	n	%	n	%	Lower 95% CI	Upper 95% CI	n	%	Lower 95% CI	Upper 95% CI	*P* value
Never	123	2.5	65	4.1	2.45	5.69	58	1.7	1.11	2.25	
Unknown	46										
How often did health care professionals you saw during the past 12 months do each of the following?											
Give you the chance to ask all the health-related questions you had[a]											
Always/Usually	5791	85.7	1519	78.9	75.74	82.02	4272	89.2	87.76	90.56	< .01
Sometimes	730	11.7	314	16.2	13.70	18.80	416	9.4	8.07	10.72	
Never	138	2.6	74	4.9	3.09	6.64	64	1.4	1.05	1.84	
Unknown	55										
Give you the attention you needed to your feelings and emotions[a]											
Always/Usually	5171	75.8	1339	69.8	66.68	72.95	3832	78.8	76.62	81.05	< .01
Sometimes	1121	18.4	410	21.5	18.60	24.47	711	16.8	14.78	18.86	
Never	315	5.8	147	8.7	6.41	10.89	168	4.3	3.32	5.38	
Unknown	107										
Involve you in decisions about your health care as much as you wanted[a]											
Always/Usually	5483	79.4	1417	71.5	67.62	75.30	4066	83.5	81.46	85.59	< .01
Sometimes	914	16.1	366	21.1	17.65	24.49	548	13.5	11.61	15.37	
Never	219	4.5	116	7.5	5.56	9.38	103	3.0	2.00	3.96	
Unknown	98										
Make sure you understood the things you needed to do to take care of your health[a]											
Always/Usually	5890	86.8	1582	82.3	80.06	84.51	4308	89.1	87.68	90.53	< .01
Sometimes	655	11.3	274	14.6	12.71	16.39	381	9.7	8.23	11.12	
Never	102	1.9	54	3.2	1.79	4.54	48	1.2	0.79	1.65	
Unknown	67										
Help you deal with feelings of uncertainty about your health or health care[a]											

			Health Care Avoidance								
	Total (n=6714)		Yes(n=1930)				No (n=4784)				
	n	%	n	%	Lower 95% CI	Upper 95% CI	n	%	Lower 95% CI	Upper 95% CI	*P* value
Always/Usually	4884	72.7	1251	63.9	60.72	67.02	3633	77.2	75.03	79.43	< .01
Sometimes	1112	19.1	431	25.2	22.08	28.28	681	15.9	14.01	17.88	
Never	454	8.2	188	10.9	8.57	13.32	266	6.8	5.57	8.07	
Unknown	264										

[a]Variables included in the Provider Rapport Scale

Table 3

Logistic Regression for Factors Associated With Health Care Avoidance HTNTS 2008

Independent Variable	Odds Ratio	Lower 95% CI	Upper 95% CI	*P* value
Gender				
Male	1.24	1.04	1.47	.02
Female	*Reference*			
Age Group				
18-34 vs. 75+	2.34	1.65	3.31	< .01
35-49 vs. 75+	2.10	1.59	2.79	
50-64 vs. 75+	1.74	1.36	2.23	
65-74 vs. 75+	1.28	0.95	1.73	
75+	*Reference*			
Health Care Coverage				
No	1.43	1.07	1.92	.02
Yes	*Reference*			
Rural-Urban Continuum Code				
Metropolitan	Reference			.01
Urban/Suburban	1.48	1.12	1.95	
Rural	1.69	1.03	2.77	
Overall, how confident are you about your ability to take good care of your health?				
Not at all Confident	2.24	0.76	6.62	< .01
Somewhat/A Little Confident	2.10	1.77	2.48	
Completely/Very Confident	*Reference*			
Not including mental health professions is there a health professional that you see most often?				
No	1.49	1.21	1.85	< .01
Yes	*Reference*			
How much would you trust information about health or medical topics from your doctor?				
Not at all/A little/ Some	1.34	1.05	1.72	.02
A lot	*Reference*			
Provider Rapport	0.94	0.91	0.98	< .01