

Research Article

Factors Associated with Healthcare Avoidance among US Adults: Analyses of the 2019 Healthy Information National Trends Survey

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Abstract

Background: Healthcare avoidance represents a significant impediment to health and well-being of individuals and society. Avoidance undermines positive healthcare-seeking and carries significant health and economic consequences including increased morbidity and mortality as well as loss of job or economic productivity.

Objective: The current study analyzed factors associated with healthcare avoidance.

Methods: Using the 2019 Healthy Information National Trends Survey, we conducted multiple logistic regression to identify factors associated with avoiding doctor's visit even when deemed necessary. Factors included socio-demographic, economic, access to health care, health care practices and trust to better understand medical care avoidance.

Results: Notably, 30.3% of Americans reported healthcare avoidance, and 29% reported "no/little/some trust" in medical information from the doctor. Greater likelihood of healthcare avoidance was observed among those who had less trust in medical information from their doctor, younger, and male. Significant health behavior predictors of healthcare avoidance included current smokers, those who had infrequent visits to health professionals, and those with better self-reported health.

Conclusions: By identifying multiple factors that may be associated with healthcare avoidance we can identify individuals at risk for avoidant behaviors and encourage positive health behavior.

Keywords: Healthcare avoidance; Trust in doctor; Health behaviors; Health promotion

Introduction

Health behaviors are intentional or unintentional actions taken by individuals that can shape and directly impact health and general well-being [1,2]. Adoption of positive, health-promoting behaviors such as healthy diet, regular physical activity, avoiding risky behaviors (e.g. smoking), and timely utilization of health-care services (e.g. regular check-ups, cancer screening) are associated with reduced risk of cancer, diabetes, cardiovascular disease and other health problems [3-6]. In contrast, unhealthy lifestyle choices, health risky behavior and underutilization of health-care services are known to have adverse health consequences [7]. Medical care-seeking behavior in particular is an action taken by individuals that address health-related symptoms including seeking help from a range of medical channels to prevent, allay and treat health issues [8]. Not seeking needed or necessary medical care or avoiding visits to healthcare facilities represents a significant impediment to health promotion and overall well-being [9]. Such behavior is encapsulated in the concept of healthcare avoidance, which remains a prevalent issue among US adult populations [9].

The term avoidance is defined as the act of turning away from a

perceived threat that evokes emotional or physiological distress, and often discussed as a coping strategy during stressful situations [9]. In the healthcare context, avoidance can manifest as treatment refusal (e.g. canceling appointments) or nonadherence, denial of symptoms and/or diagnosis [9-11], or delayed treatment seeking [9,12]. Thus, treatment avoidance undermines positive healthcare-seeking behaviors and carries significant health and economic consequences [10,13,14]. Healthcare avoidance makes a critical contribution to late stage disease diagnosis and poor survival rate [9,15,16]. Avoidance in the form of delaying screening and treatment have been associated with increased likelihood of late-stage breast cancer diagnosis, acute symptoms for heart disease, mortality from HIV [10,15,17,18], longer duration and cost of hospitalization, and loss of work productivity [17,19,20].

To better understand the phenomenon of healthcare avoidance, the Behavioral Model of Healthcare Service Use sheds insight into the social determinants of healthcare avoidance. Following this framework, healthcare avoidance is multifactorial, and a result of interplay of various individual and system-level factors [21]. Previous studies have related healthcare avoidance to sociodemographic factors

(e.g. age, education, income), logistical barriers (e.g. lack of health insurance, scheduling issues), personal attitudes and beliefs (e.g. cancer worry, fatalistic attitude towards cancer) and provider-related factors (e.g. no usual source of care, provider distrust) [13,16,18,22-24]. Studies examining predictors of treatment avoidance or delay have largely focused on patient populations such as those with breast cancer [10,25], rectal cancer [26], history of stroke [27], obesity [28], and diabetes and cardiovascular disease [29], or have narrowly focused on specific avoidant behaviors such as cancer screening and treatment [9,30].

Although healthcare avoidance is a common occurrence, existing studies are limited in its scope to provide a comprehensive account of this dynamic and complex phenomenon [9]. There is a need to advance more studies that emphasize systematic identification of various characteristics or factors that influence healthcare avoidance. The current study examines correlates of healthcare avoidance among US adults using a large, nationally representative dataset. We include several predisposing factors including socio-demographic, economic, access to health care, health care practices and trust to broaden our understanding of the notion of medical care avoidance.

Methods

Data and sample

In this study, we analyzed publicly available data from National Cancer Institute's Health Information National Trends Survey 5 (HINTS 5) Cycle 3 (2019), which is a large-scale, household interview survey of noninstitutionalized US adults aged ≥ 18 years. The purpose of HINTS was to investigate trends in the public's attitudes, knowledge, and practices related to cancer-related healthcare access and use. Data collection was conducted from January 22 to April 30, 2019, and we used available sampling weights to derive population estimates. Additional information about the survey development, design, and methodology are described elsewhere [31].

Measures

Dependent variable: We used a one item measure to assess healthcare avoidance (i.e., "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?") That was rated as "True" or "Not True."

Independent variables: Demographic factors included age (i.e., 18-34 years, 35-49 years, 50-64 years, 65+), sex (male or female), race/ethnicity (non-Hispanic White, non-Hispanic Black, Hispanic, or non-Hispanic Other), and place of residence (rural or urban). Respondents that identified as non-Hispanic White, 65+ years, female, and living in urban areas were considered as the reference group for their respective categories.

Socioeconomic factors included annual household income ($< \$35,000$, $\$35,000-\$49,999$, $\$50,000-\$74,999$, or $\geq \$75,000$) and education (\leq high school graduate, post high school or some college graduate, and college or postgraduate). College or postgraduate and earning $< \$35,000/\text{year}$ were the reference groups for their respective categories.

Lack of access to healthcare was measured with a single yes/no question assessing health insurance status for a range of health insurance plans (i.e., "Are you currently covered by any of the

following types of health insurance or health coverage plans?"). Listed insurance coverage included: "Insurance through a current or former employer or union", "Insurance purchased directly from an insurance company," "Medicare, for people 65 and older, people with certain disabilities," "Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability," "TRICARE or other military health care," "VA (including those who have ever used or enrolled for VA health care)," "Indian Health Service," and "Any other type of health insurance or health coverage plan." The "yes" response was used as reference.

Health-related practice was measured using two items related to frequency of healthcare visits and smoking status. Healthcare visit frequency was measured using a single frequency item (i.e., "In the past 12 months, not counting times you went to an emergency room, how many times did you go to a doctor, nurse, or other health professional to get care for yourself?") rated on a 5-point scale ("None," "1 or 2 times," "3 or 4 times," "5-9 times," ≥ 10 times").

Smoking status was based on two questions related to cigarette smoking quantity (i.e., "Have you smoked at least 100 cigarettes in your entire life?") and frequency (i.e., "How often do you now smoke cigarettes?"). Participants were asked to rate quantity with a yes/no, and frequency with a 3-point scale ("not at all," "some days," or "everyday"). Participants were placed into one of three categories: (1) never smoker ("no" response to quantity question), (2) former smoker ("yes" response to the quantity, and "not at all" response to frequency question), or (3) current smoker ("yes" response to the quantity, and "every day" or "some days" response to the frequency question).

Health status was based on a single item of self-reported general health (i.e., "In general, would you say your health is...") rated on a 5-point scale (1 = excellent, 2 = very good, 3 = good, 4 = fair/poor).

Trust in information from a doctor was assessed with a single item (i.e., "In general, how much would you trust information about health or medical topics from each of the following? A doctor") rated on a 4-point scale (3 = a lot, 2 = some, 1 = a little, or 0 = not at all). The "some," "a little," and "not at all" responses were combined.

Statistical analyses

Statistical analyses were conducted using survey weights to account for the HINTS data collection strategies. The computation of weights involved calculating household-level base weights; adjusting for non-response; calculating person-level weights; and calibrating the person-level weights to population counts using the American Community Survey (HINTS 2019). Weighted prevalence of healthcare avoidance was calculated by demographic, socioeconomic, health access, psychosocial, behavioral, and overall health characteristics. We conducted survey-weighted logistic regression to evaluate factors associated with healthcare avoidance. Statistical significance was declared when a 2-sided p-value was ≤ 0.05 . All analyses were conducted using SAS, version 9.4 and were weighted to be nationally representative.

Results

Table 1 summarizes weighted percentages of demographic, socioeconomic, health access, psychosocial, behavioral, and overall

Table 1: Characteristics of survey population by healthcare avoidance.

	Total	Avoid		Not Avoid	
	N	n	wt %	n	wt %
Respondents	5,247	1,303	30.5	3,944	69.5
Age groups (years)					
18-34	668	243	41	425	59
35-49	948	317	33.7	631	66.3
50-64	1,626	400	29	1,226	71
>=65	1,903	317	16.6	1,586	83.4
Sex					
Male	2,212	598	35.4	1,614	64.6
Female	3,035	705	25.8	2,330	74.2
Race/Ethnicity					
Non-Hispanic white	3,008	738	28.8	2,270	71.2
Non-Hispanic black	663	126	29.3	537	70.7
Hispanic	716	209	36.8	507	63.2
Non-Hispanic Asian	221	58	31	163	69
Non-Hispanic Other	162	58	47.3	104	52.7
Residence					
Urban	4,590	1,102	29.8	3,488	70.2
Rural	657	201	34.6	456	65.4
Education					
High school graduate or lower	1,239	373	36.4	866	63.6
Post-high school or some college	1,558	393	30.4	1,165	69.6
College graduate or postgraduate	2,381	520	24.8	1,861	75.2
Income					
<35,000	1,465	431	33.6	1,034	66.4
35,000-49,999	617	158	36.8	459	63.2
50,000-74,999	841	230	36.8	611	63.2
≥75,000	1,786	380	24.2	1,406	75.8
Smoking					
Current	603	199	40.5	404	59.5
Former	1,384	295	29.5	1,089	70.5
Never	3,216	795	28.9	2,421	71.1
Trust in Doctor					
Some/A little/Not at all	1,496	496	41.7	1,000	58.3
A lot	3,622	778	25.7	2,844	74.3
Seeking Medical Care (past year)					
3 or 4 times	1,552	323	21.7	1,229	78.3
5 - 9 times	832	126	20.1	706	79.9
10 or more times	515	90	27.4	425	72.6
General Health					
Excellent	618	107	22.5	511	77.5
Very good	1,892	435	28	1,457	72
Good	1,880	494	32.2	1,386	67.8
Fair/Poor	709	262	39.4	569	60.6
Health insurance					
Yes	4,898	1,149	28.6	3,749	71.4
No	271	134	52.9	137	47.1

Note: Dependent variable. “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?”.

health characteristics of study population stratified by whether respondents agreed that they avoid visiting their doctor even when they suspect they should. Overall, 30.5% endorsed healthcare avoidance with greater frequency among those between 18 and 34 years old (41%), males (35.4%), Hispanics (36.8%), those living in rural areas (34.6%), ≥ high school degree (36.4%), annual household income \$35,000-49,999 (36.8%) and \$50,000-75,999 (36.8%), current smokers (40.5%), those having some, little, or no trust in information coming doctors (41.7%), those having visited a health professional ≥10 in the past year (27.4%), those reporting fair/poor health (39.4%), and those without health insurance (52.9%).

Results from a sample weighted logistic regression are presented in Table 2. A notable finding suggested that those having “some/little/no” trust in information from doctors were more likely to avoid healthcare compared to those with “a lot” of trust (OR = 1.83; 95% CI = 1.42-2.36). Results also highlighted key demographic risk factors with those aged 18-34y compared to ≥ 65y were more than 3 times likely to avoid healthcare (OR = 3.61; 95% CI = 2.46-5.30), and males were more likely than females to avoid healthcare (OR = 1.44; 95% CI = 1.11-1.86). Significant self-reported health and health behavior results suggested that current smokers were more likely to avoid healthcare compared to never smokers (OR = 1.47; 95% CI = 1.04-2.09), and greater visits to a health professional was related to less avoidance. Specifically, those who reported 3-4 visits (OR = 0.53; 95% CI = 0.35-0.76) and 5-9 visits (OR = 0.42; 95% CI = 0.23-0.75) were less likely to avoid healthcare compared to those reporting no visits in the past year. Lastly, compared to those with excellent health, self-reported fair/poor (OR = 2.73; 95% CI = 1.63-4.57), good (OR = 1.97; 95% CI = 1.36-2.86), and very good health (OR = 1.57; 95% CI = 1.07-2.32) was related to greater healthcare avoidance.

Discussion

Avoiding necessary healthcare is a significant concern [9] that bears heavy public health and economic consequences. The primary aim of the current study was to identify key risk factors for healthcare avoidance when needed using nationally representative data. Notably, we found that almost 1 in 3 American adults (30.3%) avoided healthcare even when they suspected they should. This highlighted a large group at-risk for worsening health.

A concerning finding from the study showed that 29% of the sample reported no/little/some trust in medical information from their doctor. While patients generally trust their doctor or healthcare provider as a critical source of health information compared to other communication channels [32,33], the high rates of medical mistrust point to a public health concern. Thus, the patient-doctor relationship and impressions of the doctor can have long lasting consequences. This is particularly important among higher risk groups given that those with poorer health and less education tend to initially seek medical advice from a doctor [32]. Individuals may also choose to avoid doctor visits to avoid seeking health related information [22]. There is empirical support for the inverse relationship between healthcare information seeking and avoidance [9,22,30]. Accordingly, trust in doctors as a viable source of medial information is an important determinant of whether one may choose to avoid healthcare when needed.

Table 2: Associations between those who responded to “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?” And characteristics of US adults.

Characteristics	Adjusted OR	95% CI	
		LL	UL
Age group (years; Referent. >=65)			
18-34	3.611*	2.461	5.299
35-49	2.36*	1.748	3.186
50-64	1.808*	1.444	2.263
Sex (Referent. Female)			
Male	1.435*	1.105	1.864
Race/Ethnicity (Referent. Non-Hispanic white)			
Hispanic	1.035	0.735	1.457
Non-Hispanic Asian	1.154	0.691	1.926
Non-Hispanic Other	1.588	0.579	4.355
Non-Hispanic black	0.725	0.47	1.117
Residence (Referent. Urban)			
Rural	1.193	0.851	1.672
Education (Referent. College graduate or postgraduate)			
<=High school graduate	1.348	0.999	1.819
Post-high school or some college	0.998	0.767	1.298
Income (Referent. <\$35,000)			
\$35,000-\$49,999	1.361	0.853	2.172
\$50,000-\$74,999	1.282	0.909	1.806
>=\$75,000	0.775	0.545	1.103
Smoking (Referent. Never)			
Current	1.474*	1.037	2.094
Former	1.195	0.882	1.619
How much do you trust information about health or medical topics from doctor? (Referent. A lot)			
Some/A little/Not at all	1.831*	1.421	2.36
In the past 12 months, how many times did you go to health professional to get care for yourself? (Referent. None)			
1 or 2 times	1.109	0.777	1.582
3 or 4 times	0.526	0.352	0.787
5 - 9 times	0.417	0.231	0.753
10 or more times	0.583	0.308	1.104
General Health (Referent. Excellent)			
Fair/Poor	2.73*	1.629	4.574
Good	1.971*	1.36	2.856
Very good	1.572*	1.067	2.315
Health Insurance (Referent. Yes)			
No	1.658	0.98	2.805

Note: *p <0.05.

The result showing that medical mistrust was related to healthcare avoidance was consistent with previous research [34,23]. Specifically, we found that those who reported lower levels of trust in information about health or medical topics from a doctor were more likely to

report avoiding visiting their doctor even when they suspect they should. Unsurprisingly, medical mistrust has been associated with increased avoidance and delayed care in studies of diverse groups in the United States [15,23]. Mollborn, Stepanova, and Cook (2005) found that most patients who have a trusting relationship with their regular care physician were less likely than those with less trust to report having unmet health care needs.

We found that specific health behaviors were related to healthcare avoidance. In particular, healthcare avoidance was higher among those who were current smokers and had poorer self-reported worse health status, and those who never visited a healthcare professional in the past 12 months. These findings are consistent with previous studies showing unhealthy behaviors (e.g., excessive alcohol consumption, smoking) are related to healthcare avoidance. This is concerning as this also places individuals at increased health risks [35,36]. Given that health behaviors cluster together (e.g., smokers are also more likely to report physically inactivity, poor sleep, and unhealthy diets [37], smoking may be indicative of poorer health and an array of health risk behaviors. For instance, one study that examined the association of smoking status with health-related quality of life showed that current smokers reported poorer health related quality of life than those who never smoked, and were more likely to drink heavily, to binge drink, and to report depressive and anxiety symptoms [37].

Prior studies have associated self-rated health with health service use [38,39]. In this study, respondents who rated their health status as poor/fair, compared to excellent, were almost 3 times more likely to report avoiding healthcare. This contrasts with previous research suggesting poorer physical and mental health status as a significant predictor of healthcare utilization [40], greater physician visits [39], and greater likelihood of receiving treatment [38].

Sex and age were the only sociodemographic characteristics that predicted healthcare avoidance. Specifically, males were more likely to report healthcare avoidance, which is consistent with findings that men tend to lead less healthy lifestyles and adopt fewer preventative and health-promoting beliefs and behaviors [41,42]. Men report fewer healthcare visits than women [42,43] and are less likely to seek professional mental health services [44,45]. These differences may help to shed light on why men suffer from more severe chronic conditions, such as greater rates of cancer, heart disease, shorter lifespans [41,42,44]. Given that many of the health conditions for which men are at greater risk are preventable [42], public health efforts should seek to identify and confront the health-related beliefs, attitudes and practices that impede healthcare use that serves to place men at greater risk for poorer health outcomes.

An additional finding that younger adults were more likely to report avoiding healthcare is consistent with previous research [15,22,40]. Although younger adults are at lower risk for health problems compared to older adults, structural barriers to healthcare such as lack of health insurance may be a strong determinant of healthcare avoidance and delay in this group [15,46]. Because employment-based insurance is the predominant form of healthcare access among individuals <65y, healthcare use may be largely a function of occupation status and employment benefit [47]. Structurally, young adults are less likely to have health insurance coverage compared to

older age groups given age cutoffs for subsidized health insurance [46,47].

Although older individuals were less likely to avoid healthcare when needed, healthcare avoidance has particularly adverse health consequences for older adults [48] given more frequent chronic health problems and disability [48, 49]. Unlike younger adults, healthcare cost and lack of health insurance coverage are not commonly identified reasons for healthcare avoidance [46]. Rather, healthcare avoidance among older adults is largely related to perceived health care quality and the relationship with healthcare providers (e.g., communication and rapport) [46]. This underscores the importance expanding our understanding of medical care avoidance to include psychosocial factors. For example, psychosocial factors may include emotional costs of healthcare (e.g. fear of cancer treatment, embarrassment disclosing symptoms to healthcare professionals, cultural taboo, and stigma), distrust of healthcare providers and/or medical science community, low self-efficacy and low perceived need to seek medical care [13,23,24,29,34].

Although the current study did not find significant difference in healthcare avoidance by insurance status, healthcare cost remains a strong driving force for healthcare decisions. The healthcare policy in the US does not guarantee universal coverage. The long-term economic and health consequences of avoiding medical healthcare on society and individuals is an important line of work that needs further exploration [9].

The study findings must be considered in light of the following limitations. First, the data were cross-sectional and based on participant self-report. As such, we cannot infer causality and the study measures were vulnerable to recall bias. Second, a one-item measure was used to assess healthcare avoidance. Future research should consider multidimensional measures that capture greater nuance. For example, it is important to consider how avoidance of preventive services (e.g. cancer screening) are distinct from avoidance of curative services [12]. Individuals seeking curative services are likely aware of and present with a host of symptoms [8] whereas individuals seeking preventive services may be non-symptomatic and healthy.

Third, quantitative data cannot holistically capture experiences of those avoiding healthcare. Future research should consider qualitative interviews to unpack the complex treatment seeking process and shed light on the context within which individuals engage in care-seeking behaviors. Although sociodemographic factors are widely cited antecedents of healthcare avoidance [9], individual characteristics such as racial/ethnic minority status, low income, and low education were not significantly associated with healthcare avoidance among the general population. Studies with different settings and populations have found differences in treatment seeking behavior by race/ethnicity and education level. One study found that Medicare beneficiaries with type 2 diabetes that reported lower levels of education (i.e. less than a high school diploma and high school degree) and of "other" racial/ethnic minority status (versus non-Hispanic White) were more likely to avoid healthcare [50]. Continual investigation of avoidant behavior among those with specific health conditions and racial/ethnic will facilitate better understanding of those at risk for avoidance of needed medical care.

By elucidating factors associated with healthcare use avoidance we can promote healthcare usage among individuals more likely to avoid healthcare. To promote healthcare usage among those at-risk for missing or delaying doctor appointments, interventions should aim to increase knowledge and awareness of the benefits of timely health screenings and routine checkups. The Community Guide developed by the nonfederal Task Force on Community Preventive Services (Task Force) provides evidence-based recommendations to improve population health through the uptake of breast, cervical, and colorectal cancer screening [51]. For instance, the guide identified appointment reminders (e.g., in print, phone call) as an effective intervention to increase community awareness of cancer screening services, group or one-on-one community-based educational activities can effectively promote healthy lifestyle behaviors, and efforts to minimize economic and logistical barriers to cancer screening services such as lowering out of pocket costs or expansion of clinic visitation hours can promote screening behavior [52].

A promising intervention is to foster collaborative care between patient-provider dyads to encourage healthcare usage and increase patient engagement [13]. An important aspect of collaborative care is patient engagement and involvement in the management of their own health [53]. Interventions that adopt and implement a range of eHealth applications such as healthcare system web portals, mobile health communication, and telehealth medicine, that are interactive, user friendly and accessible to diverse consumers may enhance provider and patient access to critical health information, increase collaboration, and improve quality of care [54]. Moreover, the development of effective health communication interventions centered on patient involvement in their own health and safety can help foster trust and collaborative partnerships between patients and their providers [54].

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