

# Hispanics' use of Internet health information: an exploratory study\*

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**Purpose:** The research examined use of the Internet to seek health information among Hispanics in the United States.

**Methods:** A secondary analysis used the *Impact of the Internet and Advertising on Patients and Physicians*, 2000–2001, survey data. Pearson's  $\chi^2$  test, multivariate analysis of variance (MANOVA), analysis of variance (ANOVA), and independent samples *t* tests were conducted to test for relationships and differences between facets of Hispanic and non-Hispanic white online health information seeking.

**Results:** Findings indicated lower Internet health information seeking among Hispanics (28.9%, *n*=72) than non-Hispanic whites (35.6%, *n*=883). On a scale of 1 (strongly agree) to 4 (strongly disagree), Hispanics were likely to agree that Internet health information improves understanding of medical conditions and treatments (*M*=1.65), gives patients confidence to talk to doctors about health concerns

(*M*=1.67), and helps patients get treatment they would not otherwise receive (*M*=2.23). Hispanics viewed their skills in assessing Internet health information as good. Overall ratings were also positive for items related to sharing Internet health information with a doctor. Conflicting with these findings, Hispanics (*M*=3.33) and non-Hispanic whites (*M*=3.46) reported that physician-patient relationships worsened as a result of bringing online health information to a visit (scale 1=a lot better to 5=a lot worse).

**Conclusion:** This study provides further evidence of differences in Internet health information seeking among Hispanics and non-Hispanic whites. Cultural discordance may be a possible explanation for Hispanics' view that the Internet negatively impacts physician-patient relationships. Strategies to increase Hispanics' access to Internet health information will likely help them become empowered and educated consumers, potentially having a favorable impact on health outcomes.

## INTRODUCTION

A paradox in Internet health information technology is that it is free and available to all; yet, for large segments of the US population, it is not within reach [1–3]. Disparity in Web access, or the “digital divide,” is especially pronounced among Hispanics [1–3].† Few studies have explored how Hispanics seek and use Internet health information. This preliminary investigation examined Hispanics' Internet health information-seeking practices and their perceptions about this experience.

## BACKGROUND

Unarguably, the Internet has dramatically transformed health consumerism. On a typical day, 10 million American adult Internet users over 18 years of age search the web for health information [4]. Despite the widespread use of online health information, Hispan-

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A supplemental appendix is available with the online version of this journal.

† Note: The term “Hispanic” was used in this secondary analysis to be consistent with the original study and the instrument employed in that investigation.

## Highlights

- Consistent with prior studies, a lower proportion of Hispanics compared to non-Hispanic whites reported using the Internet to seek health information.
- Overall, Hispanics tended to agree that the Internet is a helpful resource for health information.
- Hispanics and non-Hispanic whites reported that bringing Internet health information to doctors' visits worsened the physician-patient relationship.
- Consistent with prior literature, the odds of seeking Internet health information were decreased for Hispanics with low (<\$25,000) and middle (\$25,000–\$49,000) household incomes.

## Implications

- More studies are needed to provide evidence to develop culturally appropriate interventions to examine differences in Internet use and potential digital disparities among Hispanics.
- Concurrent with increasing Hispanics' use of Internet health information, efforts to address the Internet's impact on physician-patient relationship are warranted.

ics lag behind whites in accessing Internet health information [3–7]. In 2001, the Pew Internet & American Life Project was among the first to document differences between Hispanics (51%) and whites (57%) in using the Internet to seek health information [3].

Inability to access Internet health information support has far-reaching implications. In a technology-driven age, online health information is a necessary resource to guide consumers' decisions regarding staying well and preventing and managing disease [6, 8, 9]. A positive outcome of accessing Internet health information is its impact on physician-patient dynamics. Increased use of the Internet has been a catalyst for a paradigm shift from a passive patient role in the traditional medical model to a more active role in the physician-patient partnership [10, 11].

While the Internet offers many benefits to health consumers, recent trends suggest that many Hispanics cannot take advantage of this resource [1–3]. Reaching out to digitally underserved Hispanics involves addressing issues relevant to access and use of the Internet to seek online health information. Many factors, including income and education, impact Internet access and use for Hispanics and other groups [1, 6, 12, 13]. Across the low-income group (<\$30,000) of all ethnic groups (whites, African Americans, Hispanics, and Asians), Hispanics have been found to be the most underserved population in terms of access to the Internet [5]. Prior research has also found that Internet access increases among Hispanics with higher levels of income [3, 5, 10, 12].

Analogous to income, a high level of education has been shown to be a strong predictor of Internet access and seeking health information [4, 12, 13]. Differences in Internet access among various educational levels for Hispanics have been found to remain resilient, even when holding constant age, income, language, nativity, country of origin, and, for immigrants, number of years in the United States [12].

Once access to the Internet and health information are gained, usage concerns surface relevant to health literacy, computer literacy, language, and cultural factors. Individuals with low literacy and health literacy skills are least likely to understand and use electronic health information because of the difficulty comprehending content and complex website designs [14–16]. One study has found the average reading level of Spanish websites was at tenth grade and English websites at collegiate [15]. These concerns emphasize the importance of educational interventions targeting digitally underserved Hispanics with limited reading abilities. Additionally, two potential hurdles to using web health information resources are the consumers' fear of computers and the Internet and the consumers' unwillingness to adapt to technology [17–19]. Therefore, strategies to develop Hispanics' computer and appraisal skills should be considered to increase their utilization of Internet health information.

The fastest growing minority group in the United States [20–22], Hispanics are likely to encounter language barriers to using Internet health information. Cardelle and Rodriguez [23] noted that there are tens

of thousands of health websites for English speakers but few of any substance available in Spanish. An ancillary problem with language is cultural differences [23, 24].

Bridging the digital divide will also involve addressing salient issues such as trust and satisfaction with Internet health information. Hispanics report a fear of receiving online medical information from unqualified sources [3]. This concern notwithstanding, seeking online health information is the second leading Internet activity among Hispanics [3].

In recognition of the importance of the Internet as a valuable tool for health care and health promotion, greater understanding is needed of how to increase digitally underserved Hispanics' access to and use of web health information [10, 25]. Given the gap in literature, this study used data collected in the *Impact of the Internet and Advertising on Patients and Physician (IAPP)*, 2000–2001, cross-sectional survey to examine Hispanics' perceptions about their experiences accessing Internet health information [26, 27]. Parallel to the original study, this investigation sought to estimate the prevalence of Hispanics' Internet use to seek health information and, among Internet health information seekers, assess views about online health information and its effect on the physician-patient relationship and health care utilization.

## METHODS

### Research questions

Four research questions were addressed in this investigation:

1. Do differences exist in Hispanics' and non-Hispanic whites' Internet health information use?
2. What are Hispanics' views about Internet health information?
3. How does the use of Internet health information impact Hispanics' perceptions of their physician-patient relationship?
4. What factors predict Internet health information use among Hispanics?

### Sample and variables

Data from the US-based general *IAPP* public survey study were used for these analyses [27]. Questionnaire items included demographics, health status, insurance coverage, perceived quality of medical care, sources of medical information, and attitudes about direct-to-consumer advertising and Internet health information [27]. See the appendix (online) for a sample of questions used for this investigation; details of the instrument development were described in Murray et al. [26].

For the original survey, a stratified sampling process was used to generate a nationally representative sample of adults over the age of 18. Households were selected across the continental United States through the Genesys Sampling System's random digit dialing [27]. A cohort of 2,780 adults over the age of 18 and an oversample of 489 individuals in poor health were selected to participate [27]. Telephone interviews were

conducted between March 2000 and March 2001. Data were weighted by age, race, gender, education, and health insurance status to maximize generalizability [26, 27].

Hispanic respondents selected for this analysis were those who answered "yes" to a question regarding Hispanic origin (including Mexican American, Latin American, Puerto Rican, or Cuban origin). Non-Hispanic white respondents were those who identified themselves as white. Because reported data suggested higher rates of Internet use among whites than Hispanics, this population was selected as a comparison group.

From the original sample of 249 Hispanics and 2,477 non-Hispanic whites, a secondary data analysis was conducted using those respondents who answered "yes" to the item, "In the last 12 months, have you looked for any information about a health topic on the Internet?" The responses of this smaller subsample to questions specific to using the Internet to seek health information were assessed. Comparisons were made for Hispanic (n=72) and non-Hispanic whites (n=883) on 3 categories of survey items: perceptions toward Internet health information, actions based on health information seen on the Internet, and perceived impact of Internet health information on the physician-patient relationship. The health status of health information seekers was also investigated. Responses were measured on a 4- or 5-point Likert scale.

### Data analysis

Due to the unequal sample sizes in the 2 ethnic groups, tests of normality and homogeneity of variance were conducted for all analyses. Analyses revealed no violations of homogeneity of variance (all Levene's test  $>0.05$ ; minimum k/s test of normality=0.173,  $P=0.096$ ); therefore, parametric tests were performed. Nonparametric equivalent tests—Mann Whitney U, Kruskal Wallis, and Friedman's—were conducted to confirm the parametric findings.

Descriptive statistics of demographic characteristics were obtained from the sample of Hispanics (n=72) and non-Hispanic whites (n=883) who reported seeking health information on the Internet. Pearson's  $\chi^2$  test, multivariate analysis of variance (MANOVA), analysis of variance (ANOVA), and independent samples  $t$  test were conducted to test for relationships and differences between Hispanic and non-Hispanic white online health information seekers on the 3 categories noted above. In addition, a 2-way ANOVA was conducted to test for differences between Hispanic and non-Hispanic white online health information seekers on their self-reported health status (measured on a Likert scale, 1=excellent–5=poor).

Using the original sample of Hispanics (n=249) and non-Hispanic whites (n=2,477), a logistic regression was also conducted to predict use of the Internet to seek health information according to ethnicity, gender, and income. Alpha was set at  $P>0.05$ . The Institutional Review Board of Texas Woman's University reviewed and approved this study.

**Table 1**

Frequencies and percentages of demographic characteristics for non-Hispanic white and Hispanic respondents who used the Internet to seek health information

Variable	Non-Hispanic whites (n=883)		Hispanics (n=72)	
	Frequency	%	Frequency	%
<b>Gender</b>				
Male	399	45.2	38	52.8
Females	484	54.8	34	47.2
<b>Household income*</b>				
<\$25,000	127	16.0	18	26.5
\$25,000–\$49,999	258	32.5	24	35.3
>\$49,999	408	51.5	26	38.2
<b>Education</b>				
High school graduation or below	165	18.7	14	19.4
Some college, no degree	226	25.6	26	36.1
College degree or above	491	55.7	32	44.5

Note: \* Significant nonparametric  $\chi^2$  tests of association,  $P<0.05$ .

## RESULTS

### Demographics

Pearson's  $\chi^2$  tests showed that a greater proportion of non-Hispanic whites reported using the Internet to find health information than Hispanics ( $\chi^2=4.75$ ,  $P<0.05$ ). Of the 249 Hispanics in the original survey, 72 reported seeking health information on the Internet (28.9%), compared to 883 of the 2,477 non-Hispanic whites (35.6%). Hispanics and non-Hispanic whites were relatively equal in the proportion of males (Hispanics: 52.8%, n=38/72; non-Hispanic white: 45.2%, n=399/883) and females (Hispanics: 47.2%, n=34/72; non-Hispanic white: 54.8%, n=484/883,  $\chi^2=1.55$ ,  $P=0.214$ ) seeking health information. Hispanic participants seeking health information (mean age=36.50, SD=11.22) were significantly younger than non-Hispanic white participants seeking health information (mean age=42.71, SD=13.41,  $t=3.82$ ,  $P<0.001$ ). A greater proportion of Hispanics (26.5%, n=18/68) were low-income wage earners (household income <\$24,999) than non-Hispanic whites (16.0%, n=165/793), while a greater proportion of non-Hispanic whites (51.5%, n=408/793) were high-income wage earners (household income >\$50,000) than Hispanics (38.2%; n=26/68,  $\chi^2=6.38$ ,  $P<0.05$ ). The proportions of Hispanics (35.3%, n=24/68) and non-Hispanic whites (32.5%, n=258/793) with moderate household incomes (\$25,000–\$49,999) were relatively equal. Household income ranged from less than \$15,000 to \$250,000 or more. While a greater proportion of non-Hispanic whites (55.7%; n=491/882) had at least a college degree compared to Hispanics (44.5%, n=32/72), this result was not significantly different ( $\chi^2=4.32$ ,  $P=0.115$ ) (Table 1).

### Perceptions of Internet health information

A 1-way MANOVA between non-Hispanic whites and Hispanics on the 9 items for perceptions about Internet health information revealed a significant multivariate effect ( $F[9, 878]=2.26$ ,  $P<0.05$ ). Examination of the



**Table 2**

Mean perceptions toward Internet health information and actions based on health information for non-Hispanic white and Hispanic Internet health information seekers

	Non-Hispanic white			Hispanic			Univariate	
	N	Mean	SD	N	Mean	SD	F	P
<b>Perceptions toward Internet health information*</b>								
Interferes with doctor-patient relationship	822	3.21	0.83	66	3.03	0.91	2.83	0.093
Causes patients to take up more physician time	822	2.82	0.95	66	2.85	0.98	0.05	0.822
Promotes unnecessary visits to doctors	822	2.83	0.91	66	2.58	1.02	4.79	0.029
Encourages patients to self-diagnose	822	2.70	0.94	66	2.47	0.98	3.62	0.057
Helps patients get treatments	822	2.03	0.76	66	2.23	0.87	4.10	0.043
Encourages patients to follow advice	822	1.89	0.69	66	2.02	0.81	1.99	0.159
Gives patients confidence to talk to doctor	822	1.47	0.58	66	1.67	0.73	6.42	0.011
Improves people's understanding	822	1.50	0.60	66	1.65	0.73	3.91	0.048
Challenges doctors to be more up-to-date	822	1.60	0.69	66	1.53	0.71	0.66	0.415
<b>Actions based on health information†</b>								
Changed doctor, hospital, or health care provider due to Internet health information?	875	2.95	0.26	72	2.96	0.26	0.07	0.788
Asked for prescription due to Internet health information?	875	2.84	0.47	72	2.85	0.40	0.00	0.947
Chose alternative treatment due to Internet health information?	875	2.91	0.36	72	2.83	0.53	2.59	0.108
Made an appointment for checkup due to Internet health information?	875	2.84	0.46	72	2.82	0.51	0.09	0.762
Followed preventive care due to Internet health information?	875	2.79	0.52	72	2.85	0.46	0.97	0.326
Used over-the-counter medicine due to Internet health information?	875	2.67	0.60	72	2.64	0.61	0.18	0.674
Affected family or friend's health due to Internet health information?	875	2.62	0.65	72	2.63	0.64	0.01	0.910
Talked about own health due to Internet health information?	875	2.55	0.65	72	2.51	0.69	0.21	0.647

\* Scale ranged from 1="Strongly agree" to 4="Strongly disagree."

† Scale ranged from 1="Mostly due to" to 3="No."

univariate effects revealed significant differences between non-Hispanic whites and Hispanics for 3 items relevant to perceptions about health information on the Internet (Table 2). On a scale of 1=strongly agree to 4=strongly disagree, Hispanics were less likely than non-Hispanic whites to agree that health information on the Internet improves people's understanding of medical conditions and treatments, gives patients the confidence to talk to their doctors about their concerns, and helps patients get treatment they would not get otherwise. Conversely, Hispanics were more likely to agree that seeking health information on the Internet promotes unnecessary visits to the doctor than non-Hispanic whites.

There were no significant differences between non-Hispanic whites and Hispanics in actions taken based on health information seen on the Internet. Actions related to preventive care, medication use, and medical advice seeking were among the Internet health-seeking behaviors examined (Table 2).

### Perceptions of the physician-patient relationship

Hispanics' perceived physician-patient relationship was not improved when they talked to their doctor about online information relevant to their health. A 1-way ANOVA showed no significant difference in overall satisfaction with the physician-patient relationship after bringing health information to their doctor between Hispanics and non-Hispanic whites. Hispanics ( $M=3.33$ ,  $SD=0.84$ ) and non-Hispanic whites ( $M=3.46$ ,  $SD=0.77$ ) similarly reported that bringing health information to the doctor made the physician-patient relationship worse. The item scale ranged from 1=a lot better to 5=a lot worse.

### Information-related perceptions

Several Internet health appraisal items were worth noting. Both groups agreed that finding information was very easy (Hispanics:  $M=1.97$ ,  $SD=0.722$ ; non-Hispanic whites:  $M=1.94$ ,  $SD=0.756$ ; scale 1=very easy-4=very difficult). Regarding the quality of Internet health information, Hispanics ( $M=2.01$ ,  $SD=0.860$ , scale 1=very concerned-4=not at all concerned) and non-Hispanic whites ( $M=2.13$ ,  $SD=0.836$ ) cited they were somewhat concerned with the reliability of health information. Competency in assessing Internet health information was not significantly different between groups. Hispanics rated their skill as good ( $M=3.03$ ;  $SD=1.103$ , scale 1=excellent-5=poor), whereas non-Hispanic whites viewed their abilities as very good ( $M=2.83$ ,  $SD=0.984$ ).

### Predictors of Internet use to seek health information: health status, ethnicity, and gender

Results of a 2-way ANOVA revealed that Internet health information seekers ( $M=2.26$ ,  $SD=1.02$ ) reported better health status than non-seekers ( $M=2.56$ ,  $SD=1.14$ ,  $F[1, 2671]=13.42$ ,  $P<0.001$ ). Respondents rated their health status on a scale of 1=excellent to 5=poor. No significant difference was found between non-Hispanic whites and Hispanics in self-reported health status. The interaction between ethnicity and Internet health information seeking was also nonsignificant. Among Internet users self-reported health was "very good" for both Hispanics ( $M=2.34$ ,  $SD=0.94$ ) and non-Hispanic whites ( $M=2.25$ ,  $SD=1.02$ ).

Controlling for ethnicity and income, a binary logistic regression showed that the odds of using the In-

Internet to access health information were increased for females (odds ratio=1.223,  $P<0.05$ , 95% CI=1.026–1.458) compared to males. The odds of using the Internet to access health information were decreased for participants with middle (odds ratio=0.262,  $P<0.001$ , 95% CI=0.208–0.330) and low (odds ratio=0.516,  $P<0.001$ , 95% CI=0.408–653) income compared to participants with high income. Holding constant income and gender, the odds of Hispanics using the Internet to access health information were not significantly increased (odds ratio=1.103,  $P=0.521$ , 95% CI=0.813–1.506) compared to non-Hispanic whites.

## DISCUSSION

When examining Internet use to seek health information in the previous 12 months, a lower proportion of Hispanics (29%,  $n=72$ ) used this resource than non-Hispanic whites (37%,  $n=883$ ). As in previous studies, this finding suggests that differences exist between Hispanics and non-Hispanic whites in using the Internet to seek health information [5, 17, 28]. Additionally, lower levels of income and education among Hispanic respondents may represent socioeconomic barriers to online health information use. For many digitally underserved Hispanics, access to the Internet will continue to be prohibitive due to cost and telecommunication infrastructure issues. A possible solution to increase Internet use among disadvantaged Hispanics is to create more public access points or community technology centers: schools, libraries, post offices, churches, or freestanding sites [29]. Supporting this solution, the National Network of Libraries of Medicine has funded 53 library consumer outreach activities throughout the United States [30] as a strategy to improve access to electronic health information for consumers. This initiative reflects librarians' commitment to meet the information needs of their constituents, especially among underserved communities.

Data from this study reveal that Hispanics and non-Hispanic whites share the view that Internet health information is a beneficial resource for health care consumers. Consistent with previous reports [31, 32], Hispanics and non-Hispanic whites report that using web sources of health information helps them understand their medical condition and make health care decisions. Both groups comment that online health information gives patients confidence to speak with their doctors, encourages patients to follow their doctor's advice, and challenges doctors to be more up-to-date with the latest treatments. These findings lend support to the importance of Internet health information in empowering patients to become active and engaged with their health care.

Conflicting findings are reported in cases where Hispanics bring Internet health information to their doctors' visits. Overall ratings are positive regarding how much time is spent discussing the information, how well the doctor listens, how well questions are answered, how receptive the doctor is to the information, and how serious the doctor considers the information. Contrasting these findings, both Hispanics

and non-Hispanic whites cite that the physician-patient relationship worsens as the result of bringing this information to the doctor. Among Hispanic Internet users, it might be that cultural views about health communication (Internet versus face-to-face discussion with their physician) may explain this incongruity, which raises the following question for further inquiry: Do some Hispanics not use the Internet to seek health information due to access issues or communication perceptions? The discrepancy between Hispanics' positive views of bringing Internet health information to their doctors and low ratings of the perceived physician-patient relationship warrants further study to elucidate Hispanics' perceptions about their experiences with using and discussing Internet health information with physicians.

Observations from this research corroborate literature demonstrating that more females than males access health information [28]. Women are typically the primary family caregivers across all ethnic and/or cultural groups [33]. In Hispanic households, Hispanic women tend to oversee matters regarding the health of the family [34, 35]. Knowing that Hispanic women historically play a central role in family health care decisions may offer an explanation for the higher use of Internet health information. Also, this knowledge lends support to the finding that more female (62%) than male (50%) health information seekers are going online on behalf of a friend or family member [6]. Similarly, more female (41%) than male (33%) caregivers searched for health information on behalf of a family member [36]. These findings serve to emphasize the importance of increasing Hispanic women's access to online health information. Exploring options to provide convenient Internet access points for Hispanic women whose households lack computers is a possible remedy to promote Internet health information use among this cohort. One suggestion is to provide computer kiosks at health care facilities or pharmacies where Hispanic women are likely to accompany family members for treatment or to fill prescriptions. Another possibility is to promote Internet access at facilities that offer English as a second language classes for Spanish-speaking Hispanics.

Hispanics' high level of perceived self-efficacy in searching and assessing health information is an encouraging finding of this study. Because Hispanic Internet users in this study tend to be highly educated, it is likely that their proficiency can be attributed to past experience using this technology. Nonetheless, among digitally underserved Hispanics, the lack of requisite skills (computer and literacy) to successfully engage in Internet health information-seeking activities is a persistent problem that merits attention [24]. Empowering Hispanics to become proficient in evaluating online information may be a way to encourage its use and, ultimately, gain acceptance of its use.

Hispanics' negative appraisal of the reliability of web health information raises concerns about their distrust of online resources. Trust is necessary for consumers to act on health advice they find on the web. However, for Hispanics, the impersonal nature of the

cyberspace environment may be incompatible with their cultural values of *confianza*, preference for establishing trust over extended periods of time, and *personalism*, connection with an individual rather than an institution [37]. Because these cultural beliefs are a possible barrier to seeking Internet health information, further research is needed to determine to what extent they impact Hispanics' decision to use electronic health resources.

It is worth noting that, in this study, 60% of Hispanic Internet users report seeking health information for a family member or friend. One possible explanation for this occurrence is *familism*, involvement of extended family in the health care of a patient, which is an important Hispanic cultural value [38]. Within the framework of promoting culturally competent health care, Internet health information can serve as a helpful tool to assist Hispanics in caring for family members.

### Limitations

Limitations of this study include the small sample size of Hispanic Internet users and lack of generalizability. A smaller sample of Hispanic respondents (n=249) than non-Hispanic whites (n=2,477) was examined in this preliminary study. Although the tests of normality suggest no difference between the two subgroups, the sample size of Hispanics might limit the power of the findings. Notwithstanding these limitations, this study contributes to the scant body of literature exploring Hispanic Internet users' perceptions about online health information.

### Future research

Four areas of future research are recommended: (1) assessing Hispanic Internet users' perspectives about online health information; (2) assessing outcomes as the result of accessing web health information; (3) examining reasons for not using the Internet (access issues, perceptions, or personal choice); and (4) replicating this study with a larger sample. Of note, data are lacking relevant to the effect of web health information on treatment and medication compliance, consumer-centered actions, and modification of at-risk behaviors. Based on the suggestions of Powell et al. [39], qualitative research should be pursued in these areas.

### CONCLUSION

Health information support is an essential resource for Hispanics who experience an increased risk for negative health outcomes. Hispanics suffer a disproportionate burden of socioeconomic obstacles to health care and are susceptible to many chronic and infectious diseases. The literature is replete with data demonstrating a relationship between adverse material conditions and poor health outcomes [40, 41]. Creating a strong communication infrastructure and providing equitably distributed health communication resources and skills and will greatly contribute to reducing the digital divide [42]. The recently released National Health Information Infrastructure (NHII) report out-

lines recommendations that will help build an information support system that envisions "sharing information and knowledge appropriately so that it is available to people when they need to make the best possible health decisions" [43]. Participation in the health decision-making process is an essential part of a consumer-centric framework outlined in the NHII initiative [5, 43].

To date, no standardized mechanisms exist to ensure equitable access to health information [8, 9]. Lorence, Park, and Fox [8] suggest developing strategies tailored to the needs of underserved groups. In light of these proposals, research is needed to precisely describe the characteristics of digitally underserved Hispanics. This research includes examining their online health information-seeking behaviors, the ways they appraise the quality of information, the actions they take as the result of information found on the web, and the way the information impacts health care. Using these data will further understanding of how to design theory-driven interventions to increase their participation as online health consumers, thus, narrowing the digital divide. Importantly, this knowledge can help health practitioners, librarians, and public health professionals in their efforts to provide health information support to Hispanics. Success in increasing Hispanics' access to health information has the potential to positively impact health outcomes for this group and greatly contribute to their increased participation as health care consumers.

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