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Clinical trial awareness: Changes over time and sociodemographic disparities

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Abstract

Background/Aims—Lack of clinical trial awareness is a known obstacle to clinical trial enrollment. We sought to define the prevalence of clinical trial awareness in the United States population, determine characteristics associated with increased trial awareness, and explore potential disparities in trial awareness.

Methods—We utilized data from the Health Information National Trends Survey (HINTS) from 2008 and 2012. Logistic regression was utilized to assess predictors of clinical trial awareness, particularly socio-demographic variables and information-seeking preferences. Trial awareness and information seeking preferences were compared in patient subgroups and between the two time periods.

Results—Clinical trial awareness increased from 68% to 74% between 2008 and 2012. In the 2012 dataset, higher education level (odds ratio (OR) 3.52, 95% confidence interval (CI) 2.16–5.74), higher yearly income category (OR 1.84, 95% CI 1.17–2.89), and Internet-use (OR 2.13, 95% CI 1.52–3.00) were significantly associated with clinical trial awareness. Hispanic ethnicity (OR 0.41, 95% CI 0.25–0.68) was significantly associated with decreased awareness. Clinical trial awareness increased in African-American/blacks (10.6%) and Hispanics (10.7%) between 2008 and 2012, as did Internet-use in both subgroups (14.2%, 18.1%, respectively).

Conclusions—Overall clinical trial awareness has increased between 2008 and 2012, though a large subset of the population still lacks general awareness of clinical trials. Racial and ethnic disparities in trial awareness exist, though disparities may be decreasing among the black population. These findings may help target educational efforts and inform approaches to increasing trial awareness.

Keywords

Clinical trial awareness; Clinical trial barriers; Clinical trial disparities; Health communication; Health information; National cross-sectional survey; Internet

Background

Clinical trials generate among the highest levels of evidence utilized to inform medical practice and facilitate shared medical decisions. However, a very small proportion of patients enroll in clinical trials, which has major implications regarding the pace of progress, the cost of clinical therapeutic development, and the generalizability of trial results.^{1, 2} Prior research exploring barriers to clinical trial accrual has identified both patient-, community-, provider-, and institutional-level factors generally categorized into the domains of trial availability, trial awareness, and trial acceptance.^{3, 4}

Lack of clinical trial awareness has been identified as an obstacle to clinical trial participation and may be particularly relevant in minority populations, who are under-represented in clinical trials.^{5–13} Lack of trial awareness is one of many barriers to clinical trial participation.^{3, 12, 14, 15} Other barriers to enrollment include lack of patient acceptance of trials, restrictive trial eligibility criteria, low physician referral of patients to clinical trials, and logistical barriers to enrollment.^{3, 12, 16} Many studies have shown that minority populations have lower trial awareness, perceive more risk associated with biomedical research, and have more fear associated with medical research compared to the white population.^{10–12, 17}

General awareness of clinical trials has varied in prior studies. A survey of 100 patients with cancer receiving care at a single outpatient center in 2001 revealed that 81% of patients had heard of a clinical trial and were able to provide some qualitative description.²⁵ A 2004 survey of California residents with cancer, and their families and/or advocates, demonstrated that 69% of respondents had heard of the term “clinical trial”.⁵ Additionally, a survey in 2005 showed 66% of cancer patients “had heard of clinical trials.”²⁶ Beyond patients with cancer, in 2008, an analysis of the Health Information National Trends Survey (HINTS), revealed that 65.9% of the general population was aware of the term “clinical trial”. However, self-identifying race as African-American/black, self-identifying ethnicity as Hispanic, lower income level, and lower education level were all associated with decreased clinical trial awareness.^{10, 11} More recently, a Research America national survey in 2013 showed general clinical trial awareness of 80% and a Center for Information and Study on Clinical Research Participation (CISCRP) survey in the same year showed that 81% of the public considers themselves to be somewhat or very informed about clinical research generally.^{2, 27}

Over the past several years, large-scale educational efforts have been implemented to improve clinical trial awareness, as well as overcome other barriers to trial enrollment. For example, the National Institutes of Health (NIH) launched a website to educate the general public about clinical trials in 2012 and the CISCRP, founded in 2003, established large-scale efforts to increase clinical trial awareness among the general patient population.^{18, 19} As

oncology has been a rapidly growing and increasingly expensive area of drug development^{20, 21}, many educational efforts have focused specifically on increasing awareness and enrollment in cancer clinical trials, including the Clinical Trial Education Program and the Education Network to Advance Cancer Clinical Trials (ENACCT).^{22, 23}

In addition to educational efforts, widespread availability of high speed internet connections, social networking websites, and smartphone mobile health interfaces have empowered patients to actively seek information about medical conditions that impact them, or their families.²⁸ A 2008 study showed that cancer patients are increasingly using the Internet for health-related purposes, such as searching for information pertinent to their disease, participating in on-line support groups, and communicating with their health care providers.²⁹ In one study, such health information-seeking behavior has been linked to increased clinical trial awareness.⁹ Additionally, a 2013 Research America clinical research survey showed that of those who are aware of clinical trials, most heard about clinical trials on-line (53%).² A 2013 CISCRP survey showed that the Internet is the most common way of finding out about clinical trials.³⁰ According to a Pew Internet & American Life Project 2012 survey, the majority (59%) of adults in the United States have looked for health information on-line.²⁸ The years between 2008 and 2012 mark a crucial period with Internet use in the United States increasing from approximately 73% to 81%.³¹

In the context of large-scale education campaigns focused on clinical trials and rapidly changing Internet usage patterns, we sought to perform a contemporary analysis of clinical trial awareness. We aimed to analyze changes in awareness over time, explore potential racial and ethnic disparities, and determine variables associated with clinical trial awareness.

Methods

HINTS dataset

Data for the current analysis was derived from the National Cancer Institute's Health Information National Trends Survey (HINTS), a nationally representative survey of adults in the United States administered every 2 to 3 years since 2003. The purpose of the survey is to monitor evolving health communication patterns for informing health-related policy, research, and outreach. Each version of HINTS includes a slightly different set of questions regarding health information seeking preferences. We utilized the HINTS publicly available, de-identified datasets from 2008 and 2012, as both included the identical question, "Have you ever heard of a clinical trial?" The 2012 survey, administered between October 2012 and January 2013, is the most recent HINTS iteration for which results were available at the time of analysis. HINTS 2008 was bi-modal, surveying participants by either random digit dialing or English-language mail surveys between January 2008 and April 2008. HINTS 2012 was administered by mail in both English and Spanish. In 2012, the overall survey response rate was 40%, with complete data from 3630 respondents, while in 2008, the overall survey response rate for mailed surveys was 31% with complete data for 3516 respondents. When analyzing variables associated with trial awareness in the 2012 HINTS dataset (n=3630), we included both English and Spanish language surveys. When making comparisons between 2008 and 2012 data, we used the 2008 mail administration sample set (n=3582), only administered in English, and the 2012 English mail administered surveys

(n=3509). We did not include the 2012 Spanish-language survey data in our comparison analyses in order to avoid mode effects. Both mail-administered surveys oversampled minorities and included a full sample weight and replicate weights that incorporated survey sampling design, non-response, and US census bureau data. Details regarding the HINTS 2008 and 2012 sampling schemes and statistical methodology have previously been published.^{32, 33}

Study variables

Our primary objective was to determine the prevalence of clinical trial awareness in 2012, as well as changes in clinical trial awareness over time, as assessed by the HINTS question “Clinical trials are research studies that involve people. They are designed to test the safety and effectiveness of new treatments and to compare new treatments with the standard care that people currently get. Have you ever heard of a clinical trial?” with answer choices, “Yes”, “No”, and “Not sure”. We combined “No” and “Not sure” responses into a single category. Independent variables included demographics, personal and family history of cancer, Internet-use, and having searched for health information from any source. Secondary objectives included evaluating trial awareness and health information-seeking preferences over time.

Analytic methods

All analyses were conducted in STATA v 13. For participants responding to the HINTS question regarding race by selecting multiple races, race was counted as missing (121 respondents in 2012 and 162 respondents in 2008).

For assessing variables associated with clinical trial awareness, we used multiple logistic regression. In logistic regression analysis, survey participants that are missing responses from any variable in the regression model are dropped from the analysis. In order to include all survey participants, we conducted the logistic regression with a multiply imputed dataset. To implement multiple imputation, we used the chained equations regression approach and incorporated the survey’s full sample weight. For the imputation model, we included all variables in the logistic regression model, as well as health insurance status and whether or not a participant was born in the United States.

The chi-square test was utilized for comparisons between the 2008 and 2012 HINTS. Analyses excluded missing data and incorporated replicate weights (using the jackknife replication method) to reflect the US population during the survey time periods. P-values less than 0.05 were considered statistically significant.

Results

Characteristics of study population

Characteristics of the 2012 HINTS surveyed population of interest (n=3630), as well as a comparison of survey participants aware and not aware of clinical trials by demographic characteristics, are described in Table 1. We also compared socio-demographic characteristics for 2012 and 2008 English mail-administered surveys (Supplemental Table

1). In HINTS 2008 (n=3582) and HINTS 2012 English surveys (n=3509), weighted survey populations were similarly distributed in regards to education level, income ranges, race, ethnicity, family history of cancer, but differed in regards to age distribution ($p<0.01$), with the 2012 HINTS population having more respondents in older age groups.

Clinical trial awareness and health information seeking over time

The 2012 HINTS surveyed population, including both English and Spanish surveys, had a clinical trial awareness of 72.9%. As shown in Table 2, in English mail-administered surveys, clinical trial awareness increased from 67.6% in HINTS 2008 to 74% in HINTS 2012 ($p<0.01$). Searching health information from any source, including health care providers, increased from 77.1% to 82.2% ($p<0.01$). Between 2008 and 2012, choice of the Internet as a first choice of health information increased from 57% to 67%, while books and pamphlets decreased (13.8% to 7.8%) and other sources (cancer organization, alternative medicine practitioner, library, magazines, newspapers, and telephone information number) also decreased (7% to 3.1%). Seeking health information from doctors first remained stable (16.9% to 16.8%).

Variables associated with clinical trial awareness

On univariate analysis, with the exception of gender, all demographic variables were associated with clinical trial awareness in the 2012 dataset (Supplemental Table 1). The HINTS 2012 dataset was utilized to explore variables independently associated with clinical trial awareness (Table 3). Compared to those with less than a high school education, respondents who were high school graduates (OR 1.69, 95 CI 1.08–2.63), who had some college education (OR 2.75, 95% CI 1.74–4.37), and who were college graduates (OR 3.52, 95 CI 2.15–5.74) were significantly more likely to have heard of a clinical trial. Relative to respondents making \$50,000 or less, those with a household income of \$50,000–\$99,999 (OR 1.72, CI 1.23–2.40) and income greater than \$100,000 (OR 1.84, 95% CI 1.17–2.89) were also more likely to have heard of a clinical trial. Respondents of Hispanic ethnicity relative to non-Hispanic ethnicity were significantly less likely to be aware of clinical trials (OR 0.49, 95% CI 0.33–0.72). Internet-use, compared to no Internet use, was associated with increased clinical trial awareness (OR 2.13, 95% 1.52–3.00). Age, self-identifying race as African-American/black, family and personal history of cancer, and seeking general health information from any source were not significantly associated with clinical trial awareness. Analysis of HINTS 2008 revealed similar results (Supplemental Table 2).

Racial and ethnic disparities in trial awareness over time

Since self-identifying race as African-American/black and self-identifying ethnicity as Hispanic were associated with lack of trial awareness (statistically non-significant and significant, respectively), a post-hoc comparison of clinical trial awareness between racial and ethnic categories was performed (Table 4). As mentioned in the methods section, analyses comparing 2008 and 2012 data did not include Spanish-language surveys. Asian, American Indian, and Pacific Islander race categories were not analyzed due to small sample size. Clinical trial awareness increased from 2008 to 2012 in both African-American/black (10.6%, $p=0.03$) and white (5.3%, $p<0.01$) racial groups and Hispanic (10.7%, $p=0.10$) and non-Hispanic (7.2%, $p<0.01$) ethnic groups. However, African-American/Black

(67.1%) and Hispanic (59.8%) awareness remain lower than white (77.5%) and non-Hispanic awareness levels (78.0%), respectively.

Internet use over time

Similar to the above analyses assessing awareness over time, we also performed a post-hoc analysis of Internet-use over time (Table 5). Between 2008 and 2012 HINTS, Internet-use increased from 71.2% to 81.2% ($p < 0.01$). Notably, Internet use increased among African-American/black (55.6% to 69.8%, $p < 0.01$) and white (74.7% to 83.0%, $p < 0.01$) racial groups and Hispanic (61.5% to 79.6%, $p < 0.01$) and non-Hispanic (73.2% to 83.6%, $p < 0.01$) ethnic groups between 2008 and 2012.

Discussion

Our analysis of a nationally representative survey of health information-seeking behavior revealed that 72.9% of respondents in the most contemporary HINTS dataset were aware of clinical trials and that clinical trial awareness increased from 2008 to 2012. Given that clinical trial awareness is a barrier to clinical trial accrual, the findings of the current analysis are encouraging. Nonetheless, a subset of the population remains inadequately informed, overrepresented by groups that are vulnerable to healthcare disparities in general.

There are several potential explanations for the general increase in clinical trial awareness in the survey population. Several institutional and national campaigns have been launched to promote clinical trial awareness.^{18, 19, 22, 23, 34} The increase in the proportion of respondents aware of clinical trials may indicate some success of these programs. In addition, Internet-use among the survey population increased from 71% to 81% from 2008 to 2012, as did using the Internet as a first source of health information (57% in 2008 to 67% in 2012). Internet use was independently associated with an increase in clinical trial awareness in both the 2008 and 2012 datasets. However, the causal relationship between Internet use and clinical trial awareness cannot be determined from our analysis.

Hispanic ethnicity, lower income level, and lower education level were independently associated with decreased clinical trial awareness. However, while self-identifying race as African American/Black was associated with significantly decreased clinical trial awareness in prior publications^{10, 11}, similar findings were not demonstrated in our analysis. In fact, clinical trial awareness increased disproportionately from 2008 to 2012 in African-American/black respondents compared with white respondents. Similarly, there was a disproportionate increase in Internet-use in African-American/black respondents (14.2%) compared with white respondents (8.3%) during this time period. In addition to an increase in Internet use, large-scale educational efforts may have also played a role in the increase in clinical trial awareness over time among minorities.^{12, 22, 23, 34} For instance, in 2006, ENACCT implemented a community partnership program to increase cancer trial awareness and accrual, particularly in minority communities. The program succeeded in increasing patient awareness about clinical trials.²³ As the barriers to cancer trial enrollment are similar to trials in general, the lessons from this program are likely applicable to other types of trials.^{3, 12, 24} Additionally, Increasing Minority Participation and Awareness in Clinical Trials (IMPACT) is a NMA program that was established to encourage minority physicians

to take on clinical investigator role and advise patients about clinical trial participation with a focus on the African-American/black community. The NCI's Clinical Trial Education Program has also targeted its efforts on raising clinical trial awareness and understanding in minority communities.²²³⁴

Notably, Hispanic clinical trial awareness (in English-language surveys) did not increase significantly between 2008 and 2012 (49.1% to 59.8%, $p=0.10$). Furthermore, Hispanic ethnicity (including both English and Spanish speakers) was significantly associated with decreased trial awareness in our 2012 HINTS regression analysis (OR 0.49, 95% CI 0.33–0.72). As the HINTS 2008 mail survey was not administered in English, to facilitate comparisons between 2008 and 2012 HINTS data, we excluded Spanish language surveys. As Spanish-speaking Hispanics are an important subset of the Hispanic population, this is a notable limitation of our study. Spanish-speaking Hispanics have previously been reported to have low clinical trial awareness, with trial awareness in Spanish-speaking Hispanic immigrants being reported as low as 48% in a 2010 survey.⁹ If Spanish-language surveys had been included in the comparison analyses, improvement in Hispanic clinical trial awareness over time may have been even less pronounced. Hispanics, a rapidly growing segment of the United States population, are under-represented in major clinical trials.⁸ Further research and education to improve Hispanic trial awareness and accrual are critical for the health of this population.

Language barriers and low health literacy in Hispanics is a possible explanation for why increased Internet-use in Hispanics might not be linked to increased trial awareness.³⁵ Notably, the National Assessment of Adult Literacy has shown that Hispanics have been shown to have lower average health literacy than non-Hispanic whites, African-American/blacks, and Asians.³⁶ Language barriers, even in Hispanics who speak English, might also contribute to decreased health literacy and trial awareness. The National Assessment of Adult Literacy has also shown that adults who spoke only English before starting school are more likely to have higher health literacy than adults who spoke another language only or another language and English before starting school.³⁶ Interestingly, the lack of a significant increase in clinical trial awareness in Hispanic individuals between 2008 and 2012 occurred despite a large increase in Internet use among this population. This large increase in Internet-use may reflect the fact that Hispanics are a younger demographic than other racial and ethnic groups.³⁷ Of course, given the numerical increase in clinical trial awareness, the sample size may have been insufficient to detect a significant difference between the two time periods.

Our analysis has additional limitations. As we utilized self-reported cross-sectional survey data, we cannot make any causal inferences. As response rates to the mailed HINTS surveys were low, non-response bias might influence the validity of our findings. To address this issue, survey weights were incorporated in our analyses to correct for non-response and approximate the US population during the survey time periods. The survey set also had missing data, an issue we addressed by using a multiply imputed dataset for our logistic regression analysis and replicate weights in our comparison analyses. The exclusion of missing data may introduce bias into our prevalence results, but would not minimize comparisons between HINTS 2008 and 2012. Increasing general clinical trial awareness is

necessary, but may not be sufficient, for increasing clinical trial participation. In addition to efforts focused on improving general trial awareness, measures to increase patient acceptance of trials and remove logistical barriers to enrollment are essential for improving clinical trial accrual.³ Between 2008 and 2012, health care providers continued to be an important first source of health information. Enhancing the role of the physician in referring patients to trials is another important approach to increasing clinical trial accrual.³⁸

In conclusion, our study shows that general clinical trial awareness is increasing in the United States, particularly in African-American/black and Hispanic populations. However, these populations remain inadequately informed when compared to white and non-Hispanic populations, respectively. Lower education level, lower income level, Hispanic ethnicity, and lack of Internet-use were independently associated with a lower likelihood of clinical trial awareness. Knowledge of these variables may help define target populations for educational interventions and trial recruitment strategies.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1

Socio-demographic characteristics: HINTS 2012 and Comparison of English mail-administered 2012 and 2008 HINTS respondents

Variable	2012 English and Spanish surveys (n=3630)	2008 English mail (n=3582)	2012 English mail (n=3509)	P- value ^a
	N (Weighted %)	N (Weighted %)	N (Weighted %)	
Age (years)				<0.01
18–29	294 (20.5)	393 (21.5)	289 (20.3)	
30–39	451 (16.3)	476 (17.7)	428 (16.2)	
40–49	595 (17.1)	651 (20.0)	568 (17.0)	
50–59	746 (17.3)	820 (16.7)	720 (17.3)	
60–69	708(12.4)	608 (10.6)	695 (12.6)	
70–79	393 (7.0)	386 (7.1)	379 (7.2)	
80	210 (4.5)	192 (4.7)	205 (4.6)	
Missing	233 (4.8)	56 (1.8)	225(4.8)	
Gender				0.98
Male	1390 (47.7)	1382 (48.3)	1346 (47.6)	
Female	2172 (50.5)	2191 (51.2)	2096 (50.5)	
Missing	68 (1.8)	9 (0.5)	67 (1.9)	
Education				<0.01
Less than high school	329 (13.3)	311 (13.7)	285 (11.9)	
High school	775 (20.0)	817 (24.3)	743 (19.9)	
Some college	1057 (36.9)	1143 (36.3)	1030 (37.4)	
College grad or higher	1380 (28.1)	1279 (24.6)	1367 (28.9)	
Missing	89 (1.9)	32 (1.1)	84 (1.9)	
Yearly Income^b				0.61
<\$50,000	1898 (51.0)	1935 (55.8)	1807 (50.4)	
\$50,000–\$99,999	996 (28.3)	1051 (28.1)	985 (28.9)	
\$100,000	617 (18.0)	596 (16.1)	614 (18.5)	
Missing	119 (2.6)	0 (0)	103 (2.2)	
Race				0.02
White	2519 (73.5)	2665 (73.1)	2436 (73.8)	
African-American/black	614 (12.1)	463 (11.7)	612 (12.5)	
Asian	116 (4.9)	141 (4.7)	115 (5.0)	
American Indian	27 (1.0)	38 (1.1)	27 (1.0)	
Pacific Islander	16 (0.3)	14 (0.5)	14 (0.3)	
Missing	338 (8.3)	261 (9.0)	305 (7.5)	
Ethnicity				0.02
Hispanic	511 (13.7)	314 (12.2)	397 (11.0)	
Not Hispanic	2768 (78.5)	3166 (85.0)	2767(81.1)	

Variable	2012 English and Spanish surveys (n=3630)	2008 English mail (n=3582)	2012 English mail (n=3509)	P-value ^a
	N (Weighted %)	N (Weighted %)	N (Weighted %)	
Missing	351 (7.8)	102 (2.8)	345 (7.9)	

^a - Chi-square test excluding missing values,

^b - imputed by HINTS statistical team according to education, race/ethnicity, language, renting vs. owning a house, being born in USA

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Table 2

Comparison of clinical trial awareness and information seeking preferences in English mail-administered HINTS 2008 and HINTS 2012*

HINTS Question	2008 HINTS Weighted %	2012 HINTS Weighted %	P-value ^a
Clinical trial awareness			<0.01
Aware	67.6	73.9	
Ever diagnosed with cancer			<0.01
Yes	7.2	8.2	
Family member ever diagnosed with cancer			0.30
Yes	71.1	73.2	
Ever use internet			<0.01
Yes	71.2	81.2	
Ever search for health information			<0.01
Yes	77.1	82.1	
First choice of health information source			<0.01
Books and Pamphlets	13.8	7.88	
Friends and Family	5.3	5.2	
Doctor	16.9	16.8	
Internet	57.0	67.1	
Other	7.0	3.1	

* Does not include Spanish-language surveys

^a Chi-square test

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Table 3

Multivariate Logistic Regression: Variables Associated with Clinical Trial Awareness in HINTS 2012

Variable	Odds Ratio ^a	95% CI	P-value
Age (years)			0.23
18–29 ^r			
30–39	1.07	0.60–1.90	
40–49	0.97	0.58–1.60	
50–59	1.24	0.75–2.06	
60–69	1.33	0.79–2.22	
70–79	1.24	0.70–2.19	
80	0.71	0.36–1.41	
Gender			0.97
Male ^r			
Female	1.00	0.77–1.32	
Education			<0.01
Less than high school ^r			
High school	1.69	1.08–2.63	
Some college	2.75	1.74–4.37	
College grad or higher	3.52	2.16–5.74	
Yearly household income^b			0.03
<\$49,000 ^r			
\$50,000–\$99,999	1.72	1.23–2.40	
\$100,000	1.84	1.17–2.89	
Race			0.30
White ^r			
African-American/black	0.84	0.58–1.22	
Asian	0.39	0.17–0.91	
American Indian	0.55	0.10–3.11	
Pacific Islander	0.52	0.06–4.28	
Ethnicity			<0.01
Not Hispanic ^r			
Hispanic	0.49	0.33–0.72	
Personal history of cancer			0.44
No ^r			
Yes	1.15	0.81–1.64	
Family member with cancer			0.21
No ^r			
Yes	1.21	0.90–1.64	

Variable	Odds Ratio ^a	95% CI	P-value
Use of internet			<0.01
No ^r			
Yes	2.13	1.52–3.00	
Ever looked for health information from any source			<0.01
No ^r			
Yes	1.92	1.36–2.70	

CI- confidence interval

^a Adjusted for all variables listed in table;

^b Imputed by HINTS statistical team according to education, race/ethnicity, language, renting vs. owning a house, being born in USA;

^r Reference category

Table 4

Clinical trial awareness by race and ethnicity in HINTS 2008 and 2012*

	Race		Ethnicity	
	White	African-American/ Black	Non-Hispanic	Hispanic
n	5058	1049	5713	693
2008 Clinical trial awareness weighted percentage	72.2%	56.5%	70.8%	49.1%
2012 Clinical trial awareness weighted percentage	77.5%	67.1%	78.0%	59.8%
Percent change between 2008 and 2012	5.3%	10.6%	7.2%	10.7%
P-value	<0.01	0.03	<0.01	0.10

* Does not include Spanish language surveys

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Table 5

Internet-use by race and ethnicity in HINTS 2008 and 2012*

	Race		Ethnicity	
	White	African-American/ Black	Non-Hispanic	Hispanic
n	5092	1070	5760	699
2008 Internet –use weighted percentage	74.7%	55.6%	73.2%	61.5%
2012 Internet-use weighted percentage	83.0%	69.8%	83.6%	79.6%
Percent change between 2008 and 2012	8.3%	14.2%	10.4%	18.1%
P-Value	<0.01	<0.01	<0.01	0.01

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