

Cancer Related Information Seeking among Cancer Survivors

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Background

Dramatic changes in communication technology coupled with an expanding evidence base in health information over the past decade have increased patient's access to health information and changed the patient's role in their health and healthcare.

Purpose

We analyzed data from national probability sample of adult cancer survivors in the U.S. to evaluate the following research questions:

- Q1.** In terms of cancer information seeking, how do cancer survivors compare with other groups, such as those with a family history of cancer or those without a family or personal history of cancer?
- Q2.** Among cancer survivors, what characteristics are associated with greater information seeking?
- Q3.** What are the key sources of cancer-related information used by cancer survivors? What factors are associated with source use?
- Q4.** Has cancer information source use changed over time for cancer survivors?

Methods

Data Collection, Response Rates, and Sample

Data were from the 2002-2003, 2005, and 2008 Health Information National Trends Survey (HINTS).

HINTS 2002-2003 data were collected October 2002-April 2003 through random digit dial (RDD) survey of a representative sample of U.S. households (n=6,149). The final response rate for the household screener was 55%, and the final response rate for extended interview was 62.8%.

HINTS 2005 data were collected February-August 2005 through RDD of a representative sample of U.S. households (n=5,586). The response rate for the household screener was 34.0%, and the response rate for extended interview was 61.3%.

HINTS 2008 used mixed mode, dual-frame design (n=7,674). One frame was a list-assisted RDD conducted January-April, 2008 (n=4,092). The response rate for the RDD household screener was 42.4%, and the response rate for extended interview was 57.2%. The second frame was a national listing of addresses available from the United States Postal Service (USPS). These households were administered a mail survey. The mail survey was conducted January-April, 2008 (n=3,582). The household response rate for the mail survey was 40%.

Survey Items

Sociodemographic Characteristics: sex, age, race/ethnicity, education, income, health insurance, cancer history.

Information-seeking: "Have you ever looked for cancer information from any source?" (yes/no).

Information source use: "The most recent time you wanted information on cancer, where did you go first?" (HCP, Internet, Other.)

Data Analysis

SUDAAN version 9.0.1 was used to estimate standard errors of point estimates for the complex survey data. All data were weighted to provide representative estimates of the adult US population. Frequencies for information and sociodemographic variables were stratified by cancer history. Crosstabulations with Chi square were conducted for information variables by sociodemographic characteristics. Among respondents with a personal history of cancer, multivariate logistic regression analyses assessed independent sociodemographic correlates of information variables. Trend analyses were conducted to examine changes over time controlling for sociodemographic variables.

Information Seeking

Information seeking was highest among respondents with a personal history of cancer (66.4%), followed by those with a family history of cancer (43.8%). Significant independent correlates of information seeking identified in a multivariate logistic regression model were gender, education, income, and time since diagnosis (Table 1).

Information Sources

The most frequently identified source of information was Health Care Provider (44.1%) followed by Internet (36.1%). All other sources were combined for our analysis accounting for only 19.9%. Significant independent correlates of information source identified in a multinomial regression model were survey year, gender, age, education, and ethnicity (Table 2).

Table 1: Multivariate logistic regression predicting information seeking

| Respondent Characteristic | OR | 95% CI |
|------------------------------|-------------|------------------|
| Gender | | |
| Male | 1.0 | |
| Female | 2.2 | 1.46-3.31 |
| Age | | |
| 18-34 | 1.0 | --- |
| 35-49 | 0.69 | 0.09-5.19 |
| 50-64 | 1.18 | 0.19-7.35 |
| 65-74 | 0.74 | 0.13-4.44 |
| 75+ | 0.53 | .09-3.04 |
| Education | | |
| Less than High School | 0.32 | 0.12-0.80 |
| High School | 0.47 | 0.27-0.82 |
| Some College | 1.07 | 0.56-2.02 |
| College Graduate | 1.00 | --- |
| Annual Income | | |
| < \$20K | 0.42 | 0.20-0.91 |
| \$20K to < \$35K | 0.48 | 0.23-0.99 |
| \$35K to < \$50K | 0.44 | 0.20-0.95 |
| \$50K to < \$75K | 1.13 | 0.53-2.42 |
| \$75K or more | 1.0 | --- |
| Race/ethnicity | | |
| Hispanic / Latino | 1.15 | 0.43-5.32 |
| NH White | 1.00 | --- |
| NH African American | 0.92 | 0.38-2.20 |
| NH Other | 1.33 | 0.29-6.19 |
| Health Insurance | | |
| Have health insurance | 1.00 | --- |
| Do not have health insurance | 0.58 | 0.24-1.39 |
| Time Since Diagnosis | | |
| <=1 year | 1.23 | 0.54-2.83 |
| 2 to 5 years | 2.12 | 1.20-3.74 |
| 6 to 10 years | 1.14 | 0.61-2.13 |
| 11+ years | 1.00 | --- |

Results

Table 2: Multinomial regression predicting information source

| | Provider Vs. Internet | | Provider Vs. Other | |
|------------------------------|-----------------------|------------------|--------------------|------------------|
| | OR | 95% CI | OR | 95% CI |
| Survey Year | | | | |
| 2003 | 1.00 | --- | 1.00 | --- |
| 2005 | 0.40 | 0.25-0.64 | 0.20 | 0.13-0.32 |
| 2007 | 0.52 | 0.31-0.87 | 0.20 | 0.11-0.35 |
| Gender | | | | |
| Male | 1.00 | --- | 1.00 | --- |
| Female | 1.3 | 0.82-2.07 | 1.88 | 1.23-2.88 |
| Age | | | | |
| 18-34 | 1.00 | --- | 1.00 | --- |
| 35-49 | 1.03 | 0.37-2.85 | 1.43 | 0.51-4.02 |
| 50-64 | 1.01 | 0.35-2.93 | 1.76 | 0.66-4.69 |
| 65-74 | 0.58 | 0.19-1.80 | 1.98 | 0.76-5.21 |
| 75+ | 0.16 | 0.05-0.48 | 1.97 | 0.69-5.63 |
| Education | | | | |
| Less than High School | 0.11 | 0.03-0.45 | 0.26 | 0.11-0.61 |
| High School | 0.53 | 0.30-0.93 | 0.70 | 0.42-1.15 |
| Some College | 0.61 | 0.39-0.95 | 0.54 | 0.32-0.91 |
| College Graduate | 1.00 | --- | 1.00 | --- |
| Annual Income | | | | |
| < \$20K | 0.74 | 0.30-1.84 | 1.54 | 0.76-3.11 |
| \$20K to < \$35K | 0.59 | 0.32-1.07 | 1.13 | 0.58-2.21 |
| \$35K to < \$50K | 0.58 | 0.29-1.14 | 0.97 | 0.49-1.94 |
| \$50K to < \$75K | 1.19 | 0.64-2.08 | 1.36 | 0.69-2.68 |
| \$75K or more | 1.00 | --- | 1.00 | --- |
| Race/ethnicity | | | | |
| Hispanic / Latino | 0.46 | 0.13-1.65 | 1.23 | 0.50-3.02 |
| NH White | 1.00 | --- | 1.00 | --- |
| NH African American | 0.98 | 0.33-2.95 | 2.61 | 1.12-6.09 |
| NH Other | 0.77 | 0.22-2.64 | 0.95 | 0.22-4.10 |
| Health Insurance | | | | |
| Have health insurance | 1.00 | --- | 1.00 | --- |
| Do not have health insurance | 0.03 | 0.35-3.03 | 1.45 | 0.50-4.20 |
| Time Since Diagnosis | | | | |
| <=1 year | 1.42 | 0.73-2.76 | 1.08 | 0.56-2.08 |
| 2 to 5 years | 1.16 | 0.70-1.90 | 0.63 | 0.36-1.09 |
| 6 to 10 years | 1.40 | 0.81-2.43 | 1.10 | 0.62-1.96 |
| 11+ years | 1.00 | --- | 1.00 | --- |

Summary and Conclusions

Consistent with previous research, information seeking was more likely among females compared to males, and among persons 2-5 years post-diagnosis, compared to those 11 or more years post-diagnosis.

Information seeking was less likely among those with lower education and lower income. Compared to 2003, respondents in 2005 and 2007 were significantly more likely to seek information from a provider than the Internet or "other" sources. Respondent aged 75 years and older were more likely to seek information from healthcare providers than the Internet, compared to younger respondents. Respondents with lower levels of education were more likely than those with college degrees to seek information from healthcare providers compared to Internet or "other" sources. African American respondents, compared to non-Hispanic White respondents, were more likely to seek information from "other" sources compared to healthcare providers. Despite increasing options for and access to health information from a variety of sources, healthcare providers remain a key source of health information for patients with cancer.