

Use of Health Information Varies by Region Among Older Adults in the U.S.

Gerontology & Geriatric Medicine
Volume 7: 1–9
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DOI: 10.1177/2333721421997192
journals.sagepub.com/home/ggm



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Abstract

Objective: To examine geographic variations in health information use among older adults in the United States. **Methods:** We compared 15,531 adults (age 45 and older) across four U.S. regions. Descriptive analyses were conducted to assess health information seeking and use by year. The relationship between health information seeking or use and regional changes were assessed using binomial logistic regression. Binomial models were adjusted by socio-demographics, chronic conditions, and health information sources. Magnitude and direction of relationships were assessed using adjusted odds ratios (aORs), 95% confidence intervals (CIs), and *p*-values. **Results:** Only the Northeast region showed increases in health information seeking (3.8%) and use (4.5%) among older adults. However adjusted models showed those living in the Northeast were 28% less likely to use health information to maintain their health and 32% less likely to use health information to treat illness. **Conclusion:** As a result of the current pandemic, older adults are facing a growing burden from health care expenses. Inability to gather and use health information for personal safety or self care can potentially increase inequalities in health, especially for older adults without personal health care providers.

Keywords

health information seeking, health information use, older adults, health inequities

Manuscript received: November 2, 2020; **final revision received:** January 24, 2021; **accepted:** January 29, 2021.

The current pandemic is having the biggest health related effects on older adults (Centers for Disease Control and Prevention, 2020). Therefore, understanding how older adults gather and use health information is important to maintaining the health and wellbeing of these populations. The purpose of this study is to examine if there are geographic differences in how older adults gather and use health information. Because economic conditions play a large role in the availability of resources, we will also examine how an economic crisis affects their health information seeking and use behavior.

Previous studies suggest that poor economic conditions can increase the risk of poor psychological and behavioral morbidity such as violence (Schneider et al., 2016), suicide (Kerr et al., 2017), substance abuse (Kalousova & Burgard, 2014) and mental health problems such as depression (Pruchno et al., 2017). Additionally, long periods of financial crisis may have long-term impacts on population health as people adopt negative health behaviors such as excessive use of tobacco, alcohol and drugs (Kalousova & Burgard, 2014; Macy et al., 2013). Negative behaviors also could include foregoing health care. Forgone health care is

when individuals do not obtain health care that they think they need because of costs (Burgard et al., 2013). Forgone care was not just seen in the unemployed. Reduced care seeking behaviors among racial and ethnic minorities may compound existing health disparities. Disparities in the use of appropriate care can lead to increased emergency department visits and increased costs placing a burden on the entire healthcare system (Travers et al., 2017).

Another negative behavior compounded by periods of crisis include medication non-adherence. According to a study by Piette et al. (2011), more than one-third of chronically ill adults aged 65+ who were working or looking for work reported cost-related medication non-adherence. Roughly half who stated that they were unable to take their medication as prescribed because of

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cost blamed these problems on economic recession (Piette et al., 2011). These data suggest that chronically ill patients, who are disabled or looking for work, were more likely to miss taking their medication. Failure to take medication as prescribed is consistently linked to the exacerbation of chronic conditions, increased health care use, and greater health system costs (Kennedy & Geneva, 2016). However, studies of health outcomes during periods of crisis have been mixed (Burgard et al., 2013). If people forego health care and medications during a financial crisis, they might practice more self-care/self-management. Thus, current conditions may increase health information use in older adults.

Theories of uncertainty management suggest that people seek information from a range of sources as ways to manage feelings of doubt and unpredictability (Cadge & Bergey, 2013). According to Dale Brasher (2001), information can be used to manipulate uncertainty in a desired direction (e.g., to increase, decrease, or maintain it). Life in general and illness in particular, is inherently unpredictable. Individuals are able to cope with these uncertainties through seeking (or avoiding) information. Individuals seek information to gain knowledge that they lack or to confirm or disconfirm their current state of beliefs (Heyman et al., 1998). Because health information can be challenging and difficult to interpret, many people, especially those with chronic illnesses, educate themselves about the technical aspects of the disease to facilitate dialogues with physicians, government agencies, and other health experts (Brashers, 2001). Variability in the types and sources of information is also important to uncertainty management. In health care, individuals prefer different sources of information for each facet of illness or at different stages of illness (Cadge & Bergey, 2013).

The purpose of this study is to evaluate if there are geographic differences in how older adults find and use health information. Our hypothesis, based on the theory of uncertainty management, is that older adults in areas that experienced greater financial crisis engaged in more self-care and are more likely to gather and use health information.

Methods

Data

We extracted 15,531 individuals from the 2007 and the 2010 USA Health Tracking Household Survey (HTHS). The HTHS contains information on health insurance coverage, access to care, perceptions of care delivery and quality of care, use of health services, health status, consumer engagement, use of health care information, and demographic information. A detailed description of the HTHS data and documentation may be obtained from the Health and Medical Care Archives (<http://www.icpsr.umich.edu/HMCA/>) and has been published elsewhere (Center for Studying Health System Change,

2011; Center for Studying Health System Change, 2012). The data were used with permission from the Inter-university Consortium on Political and Social Research (ICPSR) at the University of Michigan. We obtained Institutional Review Board approval from the Florida A&M University and the University of Colorado Denver for this research. From these two data sets we extracted all individuals ≥ 45 years of age (2007 $N=7,978$) and (2010 $N=7,709$). The data were combined to create one data file for the final analysis ($N=15,531$). The unweighted sample for this analysis included adult respondents (≥ 45 years old), who self-identified as non-Hispanic White, non-Hispanic African American, or Hispanic/Latino, who responded to a series questions on health information seeking and use.

Dependent Variables

Health information seeking. We constructed this variable by combining the yes responses from respondents into a categorical variable (any health information seeking versus none). During the past 12 months, did you look for or get information about a personal health concern: (1) on the Internet; (2) from friends or relatives; (3) from TV or radio; (4) from books or magazines; (5) from newspapers; (6) somewhere else other than a doctor; and (7) from alternate sources?

Health information use. For those who answered yes to any of the prior health information seeking questions, three questions were asked to assess respondents' health information use: (1) Did you later talk with a doctor or other health care professional about any of the information you found? (2) Did any of the health information you found change your overall approach to maintaining your health? and (3) Did any of the health information you found help you to better understand how to treat an illness or condition? We coded responses for each separate question as yes/no.

Independent Variables

The main independent variables of interest were U.S. region and year. The years of interest were 2007 (the year prior to the start of the recession) and 2010 which was approximately 1 year post-recession. The analysis included the U.S. regions to determine if changes in health information seeking or use were differentially affected by the recession. The U.S. regions were divided into Northeast, Midwest, South, and West. The regions were divided according to the regional divisions used by the U.S. census. The Northeast region includes nine states: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, and New York. The Midwest region contains 12 states including: Illinois, Indiana, Michigan, Ohio, Wisconsin, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. The Southern region is comprised of 16 states and the District of Columbia. These

states include: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Mississippi, Alabama, Oklahoma, Texas, Arkansas, and Louisiana. The fourth region is the Western region which contains the 13 remaining states: Arizona, Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming, Alaska, California, Hawaii, Oregon, and Washington.

Control Variables

Sociodemographic variables which were added to our model included race/ethnicity—Whites (reference), African Americans, or Latinos, which were all mutually exclusive groups based on their primary self-identity. We included sex (male [reference] vs. female), marital status (married/yes [reference] vs. not married), age (45–54 [reference], 55–64, 65–74, and 75+ years), education [<high school, high school, some college, and college and above (reference)], employment status [employed (reference) versus unemployed], perceived health status [poor/fair, good, and very good/excellent (reference)], usual source of care [yes (reference)/no], insurance type [private (reference), public, and uninsured], and satisfaction with choice of doctor [satisfied (reference)/dissatisfied].

Chronic Conditions. Other variables included in the analysis because of their potential effects on health information seeking and use follow: did a doctor or other healthcare professional ever tell the participant that he/she had any of the following chronic conditions, including: (1) diabetes or high blood sugar, (2) arthritis, (3) asthma, (4) chronic obstructive pulmonary disease, (5) hypertension or high blood pressure, (6) coronary heart disease (including: angina, atrial fibrillation, congestive heart failure, bypass surgery, angioplasty, heart disease, and acute myocardial infarction), (7) skin cancer, (8) any cancer other than skin cancer, and (9) depression [count of total chronic conditions = 0, 1, 2, 3, ≥ 4 (reference)]. We also used the prior diversity of health information sources measure as a categorical variable [1, 2, 3, and ≥ 4 sources (reference)] in our health information use models, focusing on the amount, not specific type, of health information seeking as it related to use.

Statistical Analysis

We performed descriptive and binomial logistic regression analyses using SPSS version 26.0 Complex Samples (IBM Corporation). The complex samples program makes adjustments for complex, multistage designs to produce accurate standard errors and significance tests. The study sample was weighted at the person-level to produce national estimates while adjusting for regional stratification of households and survey non-response (Carlson et al., 2012). Descriptive analyses were conducted to assess health information seeking and use by year. Statistical significance for all comparisons were

based on chi-square (χ^2) tests. The relationship between health information seeking or use and regional changes during the recession was assessed using Binomial logistic regression. Binomial models were built using the control models and then adding the independent variables. Magnitude and direction of relationships were assessed using adjusted odds ratios (aORs), 95% confidence intervals (CIs), and *p*-values. Results were considered statistically significant at $p \leq .05$.

Results

Table 1 contains demographic information, health seeking sources, health behaviors and health status for middle age and older adults living in the United States. Results showed fewer older adults in 2010 (47.9%) compared to 2007 (52.1%). The largest percentage of participants lived in the South in 2007 (38.1%) and in 2010 (34.7%). The smallest percentage lived in the Northeast in 2007 (17.9%) and 2010 (19.8%). The percentage of older adults decreased from 2007 to 2010 in all regions except the Northeast. More middle-age and older adults sought health information in 2007 (57.9%) compared to 2010 (55.9%). Interestingly, there were more older adults who used health information to maintain their own health in 2010 (60.5%) compared to 2007 (48.8%). Fewer older adults used health information for treatment in 2010 (65.2%) compared to 2007 (80%); however, the percentage was significant. In examining the numbers of health information sources that middle-age and older adults used, the study shows that the percentages increased from 2007 to 2010 for individuals that used one to two sources. However, for middle-age and older adults who used four or more sources, the percentage decreased (10.7% to 3.2%). Racial characteristics of the participants revealed that the majority were White (79.4%) followed by African-American (11.2%), and Hispanic (9.55%). The percentages remained stable for African-Americans from 2007 to 2010 (11.1%–11.2%), but increased among Hispanics (8.5%–10.4%) and decreased slightly among Whites (80.4%–78.4%). There were more female (53.3%) than male (46.7%) participants. Overall most study participants reported their perceived health to be excellent or very good (47.6%). Most participants had a usual source of care (81.4%). However, we saw a significant decrease in the percentage of middle-age and older adults with a usual source of care between 2007 and 2010 (87.9%–75.0%). Overall, the greatest percentage of participants (91.2%) were satisfied with their choice of doctor. A majority of participants (72.7%) reported having at least one chronic condition.

Figure 1 shows the percentage change by region in HI seeking and use among middle age and older participants between 2007 and 2010. The largest increase in HI seeking (3.5%) occurs in the northeast region. Likewise, the northeast region also shows the largest percentage increase in HI use (4.8%). The northeast consistently

Table 1. Characteristics of the Study Sample.

Characteristic	Total	Year 2007	Year 2010	χ^2 p-Value
*N = 18,287				
Region				.072
Northeast	18.9	17.9	19.8	
Midwest	22.4	22.5	22.2	
South	36.4	38.1	34.7	
West	20.8	21.4	20.3	
*HI seeking				<.001
No	47.2	42.1	51.8	
Yes	52.8	57.9	48.2	
*HI use				
Talk to doctor				.439
No	43.5	49.2	44.1	
Yes	56.5	57.1	55.9	
Maintain health				<.001
No	45.6	51.2	39.5	
Yes	54.4	48.8	60.5	
For treatment				<.001
No	27.0	19.8	34.8	
Yes	73.0	80.0	65.2	
# of sources of HI				<.001
None	51.6	48.0	54.9	
One	18.1	16.1	20.0	
Two	14.3	14.3	14.4	
Three	9.1	11.0	7.4	
Four +	6.8	10.7	3.2	
Race/ethnicity				.069
White	79.4	80.4	78.4	
African-American	11.2	11.1	11.2	
Hispanic/Latino	9.5	8.5	10.4	
Gender				.533
Male	46.7	46.5	46.9	
Female	53.3	53.5	53.1	
Age				.006
45–54 years	35.5	36.6	34.6	
55–64 years	32.1	31.3	32.8	
65–74 years	19.0	17.9	20.1	
75+ years	13.3	14.2	12.5	
Marital status				.062
Single	33.5	32.4	34.5	
Married	66.5	67.6	65.5	
Education level				.035
Less than high school graduate	15.7	14.6	16.7	
High school graduate	31.5	31.5	29.0	
Some college	25.8	25.6	26.0	
College graduate & above	28.3	28.3	28.3	
Income level				.007
Low	28.1	26.8	29.4	
Medium	28.4	27.7	29.1	
High	43.4	45.5	43.4	
Employed				<.001
No	54.5	52.4	56.4	
Yes	45.5	47.6	43.6	
Perceived health status				.125
Excellent/very good	47.6	47.5	47.7	
Good	28.1	27.3	28.8	
Fair/poor	24.3	25.2	23.5	

(continued)

Table 1. (continued)

Characteristic	Total	Year 2007	Year 2010	χ^2 p-Value
*N= 18,287				
Usual source of care				<.001
No	18.6	12.1	25.0	
Yes	81.4	87.9	75.0	
Insurance type				<.001
Private	47.4	49.9	45.0	
Public	42.3	41.5	43.1	
Uninsured	10.3	8.6	11.9	
Satisfied with choice of doctor				<.001
No	8.8	10.2	7.6	
Yes	91.2	89.8	92.4	
Chronic conditions				.082
None	27.3	27.4	27.2	
One	27.2	28.1	26.4	
Two	22.0	20.7	23.1	
Three	13.8	13.8	13.7	
Four+	9.7	10.0	9.5	

Note. All percentages and χ^2 results are weighted, the total N is unweighted.

*Health Information Seeking and Use categories contains information only for respondents who answered the survey questions.

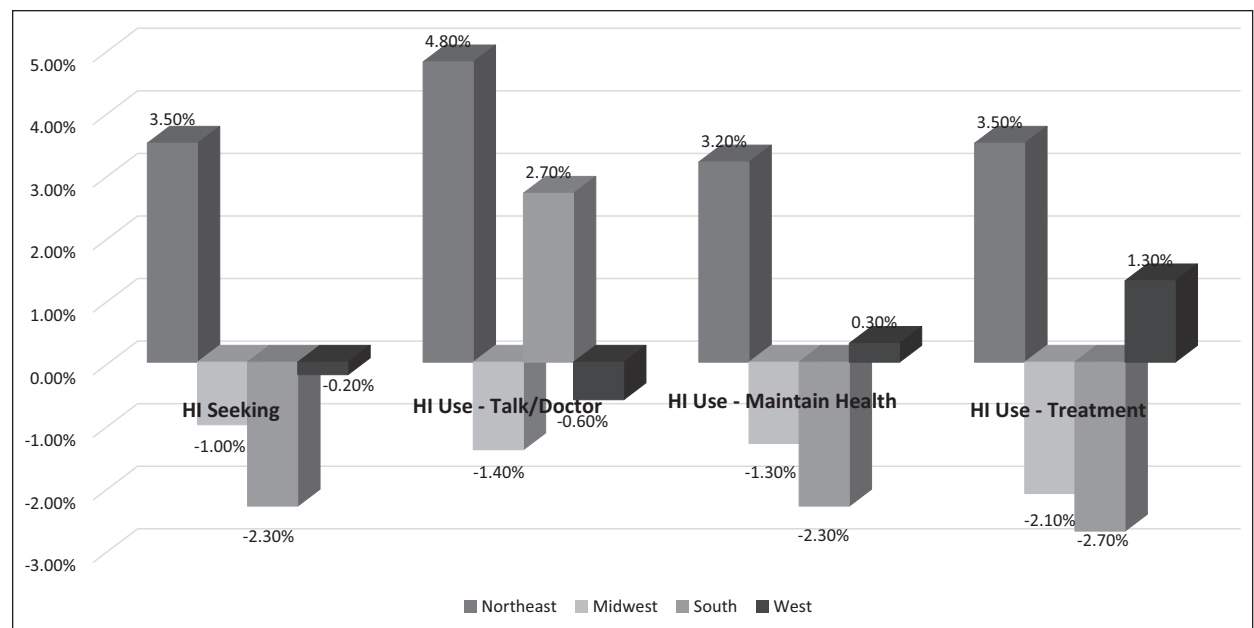


Figure 1. Percentage change in health information seeking and use in middle age and older adults by region—from 2007 to 2010.

displays growth across all HI outcomes. The largest decrease in HI seeking (−2.30%) and HI use (−2.70%) occurs in the South. The South shows a mixed pattern of HI seeking and use. Despite lower HI seeking during this period (−2.30%), there is increased HI use to talk with a doctor (2.70%), but decreased use of HI to maintain health (−2.30%) or use for treatment (−2.70). The West similarly indicates a mixed pattern. Despite a small

decrease in HI seeking (−0.20%), the West displays small increases in HI use to maintain health (0.30%) and for treatment (1.3%). The Midwest region consistently shows decreased HI seeking (−1.0%) and HI use (−1.30 to −2.10%) across all outcomes.

Table 2 shows adjusted odds ratios (aORs) with 95% confidence intervals (CI) for health information seeking and use models for the United States by region and year.

The four regions were divided according to the regional divisions used by the U.S. Census. Results show that middle-age and older adults (45 years and older) living in the Midwest were significantly less likely to use health information [0.81 (0.67, 0.97)] when speaking with their doctors compared to their counterparts living in the Western U.S. The results also show that middle-age and older adults in 2010 were more likely to use health information to maintain their own health. Similar adults living in the Northeast [0.72 (0.58, 0.88)] and Midwest [0.80 (0.67, 0.96)], were significantly less likely to use health information to maintain their health than in the West (reference). In 2010, individuals over 45 years old in all regions were less likely to use health information for treating their own illness, however, middle-age and older adults living in the Northeast [0.68 (0.54, 0.86)] were significantly less likely to do so. Finally, the results of our analyses on health information seeking showed that middle-age and older adults were significantly less likely to use health information in 2010 [0.68 (0.58, 0.79)] compared to 2007 (reference).

Discussion

Our study reveals interesting findings on the use of health information among older adults by region. Based on theories of uncertainty management, we expected older adults in areas that experienced greater financial crisis were more likely to gather and use health information. In our unadjusted models, we did see increases in health information seeking and use in older populations in the Northeast from 2007 to 2010. This area was hardest hit by the 2007 to 2009 recession. Other regions of the country showed mixed results or revealed lower health information seeking which would also be expected based on economic variation. However, adjusted models showed significant decreases in health information seeking among older adults when adjusted by regional demographics and chronic conditions. This finding is concerning because health information seeking behaviors are associated with improved self-management of chronic illnesses. This study suggests that an economic crisis may negatively affect self-care among older adults by limiting their ability to access health information.

Decreases in health information seeking occurred for older adults in all regions of the United States when compared to the West after adjusting for socio-demographics and chronic health conditions. Reductions in information seeking behavior may be attributed to a reduction in financial resources to gain access to some sources of health information. Prior studies (Chaudhuri et al., 2013; Tu, 2011), revealed that the three leading sources of health information were books, magazines and newspapers in print format; friends and relatives; and the Internet. However, the recession had different effects on the use of health information. The use of print media for health information fell from 33% to 18%

while the use of health information from friends and family members and the Internet remained steady (Tu, 2011).

Currently, most older adults use the internet to get their health information (Turner et al., 2018). According to a study by Pew researchers, 6 in 10 Americans use the internet for health information (Fox & Duggan, 2013). A more recent study by Pew researchers found that most Americans (92%) were fairly or very closely following health related news about the pandemic; however, there were pronounced differences between the youngest and oldest adults (Jurkowitz & Mitchell, 2020). According to the study 69% of older adults over 65 gathered health news on the pandemic while only 54% of adults (age 50–64) did so.

Our study showed regional differences in the way older adults used health information. Older adults in the Midwest were significantly less likely than their counterparts in the West to use health information to speak with their doctor or to maintain their own health. Senior adults in the Northeast were least likely to use health information to maintain their own health or treat an illness. Older adults (aged 65 and above) were significantly less likely to gather and use health information to discuss health issues with their doctors despite experiencing more health problems.

As a result of the current pandemic and economic crisis, middle age and older adults face a growing burden from health care expenses. For middle age adults, the economic downturn continues to add hard-hit groups to the ranks of the uninsured. For older adults, health care expenses related to chronic conditions continue to rise. Our study showed that African-American seniors were more likely to use health information to maintain their own health compared to other racial or ethnic groups. However Hispanic seniors were more likely to use health information to treat an illness compared to other racial or ethnic groups.

This study adds to the literature by exploring the effects of economic crisis on health information seeking and use behaviors of older adults. Other studies have examined health information seeking behavior among adults in the US (Burgard et al., 2013; Macy et al., 2013), but none have explored geographic differences which are an important factor during an economic crisis. The limitations of this study are that it uses information collected during the 2007 to 2009 time period to study regional differences in health information seeking and use behaviors in older adults. However, the current economic cycle was stimulated by a health-related event. The COVID pandemic has far reaching effects compared to the economic effects caused by the collapse of the housing market in 2007. During the height of the 2007 recession, unemployment rose to a peak of 10% (Modrek et al., 2013). During the recent pandemic, unemployment reached 13.3% nationally with some states reaching as high as 25% (U.S. Bureau of Labor Statistics, 2020). It is expected that the effects economic

Table 2. Logistic Regression Models for Health Information Seeking and Use.

Characteristic	Health information seeking (HI) sources	HI for doctor	HI to maintain health	HI to treat illness
	*N= 15,531	N=8,247	N=8,266	N=8,275
Analytical sample	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
U.S. Region				
1–Northeast	0.94 (0.81, 1.09)	0.93 (0.76, 1.13)	0.72 (0.58, 0.88)*	0.68 (0.54, 0.86)*
2–Midwest	0.88 (0.76, 1.01)	0.81 (0.67, 0.97)*	0.80 (0.67, 0.96)*	0.84 (0.68, 1.03)
3–South	0.87 (0.76, 0.99)	0.88 (0.74, 1.04)	0.92 (0.78, 1.09)	0.85 (0.69, 1.03)
4–West	Reference	Reference	Reference	Reference
Year				
1–2010	0.68 (0.58, 0.79)*	0.94 (0.74, 1.19)	1.66 (1.31, 2.07)*	0.38 (0.29, 0.49)
2–2007	Reference	Reference	Reference	Reference
Race/ethnicity				
African-American	1.03 (0.82, 1.13)	0.81 (0.64, 1.04)	1.29 (1.01, 1.65)*	0.90 (0.68, 1.20)
Hispanic	0.96 (0.87, 1.23)	0.99 (0.78, 1.28)	0.75 (0.59, 0.95)*	0.61 (0.46, 0.81)*
White	Reference	Reference	Reference	Reference
# of sources of HI				
One		0.41 (0.34, 0.50)*	0.30 (0.25, 0.36)*	0.25 (0.19, 0.32)*
Two		0.65 (0.53, 0.79)*	0.50 (0.41, 0.60)*	0.45 (0.34, 0.60)*
Three		0.84 (0.69, 1.04)	0.83 (0.68, 1.02)	0.79 (0.58, 1.07)
Four		Reference	Reference	Reference
Gender				
Female	1.56 (1.42, 1.71)*	1.05 (0.93, 1.19)	1.13 (1.00, 1.29)	1.16 (0.99, 1.34)
Male	Reference	Reference	Reference	Reference
Married				
No	1.08 (0.97, 1.21)	1.08 (0.93, 1.26)	1.05 (0.90, 1.23)	1.12 (0.93, 1.34)
Yes	Reference	Reference	Reference	Reference
Age				
45–54 years	Reference	Reference	Reference	Reference
55–64 years	0.97 (0.86, 1.08)	0.92 (0.77, 1.10)	0.94 (0.76, 1.18)	0.96 (0.81, 1.14)
65–74 years	0.91 (0.75, 1.11)	0.64 (0.46, 0.88)*	1.01 (0.78, 1.31)	1.04 (0.76, 1.42)
75+ years	0.77 (0.62, 0.94)*	0.49 (0.34, 0.69)*	0.86 (0.65, 1.14)	0.84 (0.61, 1.15)
Education level				
Less than high school graduate	3.98 (3.28, 4.83)*	1.67 (1.14, 2.25)*	1.18 (0.88, 1.59)	1.17 (0.84, 1.63)
High school graduate	2.44 (2.17, 2.75)*	1.27 (1.06, 1.53)*	1.11 (0.95, 1.29)	1.12 (0.93, 1.36)
Some college	1.61 (1.41, 1.83)*	1.13 (0.92, 1.37)	1.02 (0.87, 1.19)	1.04 (0.86, 1.25)
College graduate & above	Reference	Reference	Reference	Reference
Income level				
Low	1.09 (0.95, 1.26)	1.17 (0.96, 1.42)	0.87 (0.71, 1.05)	1.11 (0.90, 1.38)
Medium	1.02 (0.91, 1.14)	1.08 (0.93, 1.25)	0.89 (0.77, 1.03)	1.02 (0.85, 1.22)
High	Reference	Reference	Reference	Reference
Employed				
No	1.01 (0.90, 1.12)	1.09 (0.94, 1.26)	0.85 (0.74, 0.99)*	0.98 (0.83, 1.17)
Yes	Reference	Reference	Reference	Reference
Perceived health status				
Excellent/very good	1.19 (1.02, 1.38)*	1.33 (1.10, 1.61)*	1.21 (0.99, 1.47)	0.87 (0.69, 1.08)
Good	1.07 (0.92, 1.23)	1.11 (0.92, 1.33)	1.01 (0.84, 1.23)	0.93 (0.74, 1.15)
Fair/poor	Reference	Reference	Reference	Reference
*Usual source of care				
No	0.69 (0.58, 0.79)*	0.67 (0.54, 0.82)*	0.86 (0.70, 1.06)	0.84 (0.68, 1.05)
Yes	Reference	Reference	Reference	Reference
Insurance type				
Uninsured	1.08 (0.88, 1.34)	1.83 (1.41, 2.38)*	1.06 (0.80, 1.43)	1.24 (0.91, 1.70)
Public	1.42 (1.19, 1.70)*	0.85 (0.67, 1.07)	1.13 (0.90, 1.41)	1.15 (0.87, 1.50)
Private	Reference	Reference	Reference	Reference
Satisfied with choice of doctor				
No	1.47 (1.23, 1.77)*	0.86 (0.69, 1.06)	1.54 (1.23, 1.92)*	1.16 (0.90, 1.49)
Yes	Reference	Reference	Reference	Reference
Number of chronic conditions	1.20 (1.16, 1.25)	1.15 (1.09, 1.21)*	1.07 (1.02, 1.13)*	1.12 (1.05, 1.18)*

*The logistic regression models in Table 2 show a reduced number based on the number of respondents to questions on Health Information Seeking and Use.

crisis caused by the current pandemic may last 2 years or longer.

Conclusion

An important aspect of self-care for middle age and older adults, especially those with chronic health conditions, is the ability to access health information. With more people living longer and because of changing demographics, there is a need to examine factors (beyond socio-demographic characteristics) associated with health information seeking and use behavior. A growth in internet use and increasing amounts of available health information has changed the way we manage our health (Jacobs et al., 2017). The current pandemic has stressed the importance of being able to get updated health information. Older adults have been the hardest hit by the pandemic, so identifying how to get health information to this specific population is important for a healthy population overall. Inability to gather and use health information for personal safety or self care can potentially increase inequalities in health, especially for older adults without personal health care providers.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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References

- Brashers, D. E. (2001, September). Communication and uncertainty management. *Journal of Communication*, 51(3), 477–497.
- Burgard, S., Ailshire, J. A., & Kalousova, L. (2013). The great recession and health: People, populations, and disparities. *The Annals of the American Academy of Political and Social Science*, 650(1), 194–213.
- Cadge, W., & Bergey, M. (2013). Negotiating health-related uncertainties: Biomedical and religious sources of information and support. *Journal of Religion and Health*, 52, 981–990.
- Carlson, B. L., Hall, J., CyBulski, K., Strouse, R. (2012). *Health tracking household survey methodology report 2010* (round six). Center for Studying Health System Change/Mathematica. <http://www.hschange.org/CHANGE/1297/1297.pdf>
- Centers for Disease Control and Prevention. (2020, April 30). *Older adults*. (Centers for Disease Control and Prevention). Coronavirus Disease 2019. <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/older-adults.html>
- Center for Studying Health System Change. (2011). *Health tracking household survey, 2007* [United States]. Inter-university Consortium for Political and Social Research. <https://doi.org/10.3886/ICPSR26001.v1>
- Center for Studying Health System Change. (2012). *Health tracking household survey, 2010* [United States]. Inter-university Consortium for Political and Social Research. <https://doi.org/10.3886/ICPSR34141.v1>
- Chaudhuri, S., Le, T., White, C., Thompson, H., & Demiris, G. (2013). Examining health information-seeking behaviors of older adults. *Computers, Informatics, Nursing: CIN*, 31(11), 547–553. <https://doi.org/10.1097/01.NCN.0000432131.92020.42>
- Fox, S., & Duggan, M. (2013, February 1). *Majority of adults look online for health information*. Facttank News in the Numbers.
- Heyman, B., Henriksen, M., & Maughan, K. (1998, November). Probabilities and health risks: A qualitative approach. *Social Science and Medicine*, 47(9), 1133–1398.
- Jacobs, W., Amuta, A., & Jeon, K. C. (2017). Health information seeking in the digital age: An analysis of health information seeking behavior among US adults. *Cogent Social Sciences*, 3(1): Article: 1302785.
- Jurkowitz, M., & Mitchell, A. (2020, April 22). *Older Americans continue to follow COVID news more closely than young adults*. (Pew Research Center) Pew Research Center - Journalism & Media: journalism.org/2020/04/22/older-american-continue-to-follow-covid-19-news-more-closely-than-younger-adults/
- Kalousova, L., & Burgard, S. A. (2014). Unemployment, measured and perceived decline of economic resources: Contrasting three measures of recessionary hardship and their implications for adopting negative health behaviors. *Social Science and Medicine*, 106, 28–34. <https://doi.org/10.1016/j.socscimed.2014.01.007>
- Kennedy, J., & Geneva, E. (2016). Medication costs and adherence of treatment before and after the affordable care act: 1999–2015. *American Journal of Public Health*, 106(10), 1804–1807. <https://doi.org/10.2105/AJPH.2016.303269>
- Kerr, W. C., Kaplan, M. S., Huguet, N., Caetano, R., Giesbrecht, N., & McFarland, B. H. (2017, April). Economic recession, alcohol, and suicide rates: Comparative effects of poverty, foreclosure, and job loss. *American Journal of Preventive Medicine*, 52(4), 469–475.
- Macy, J. T., Chassin, L., & Presson, C. C. (2013). Predictors of health behaviors after the economic downturn: A longitudinal study. *Social Science & Medicine*, 89, 8–15. <https://doi.org/10.1016/j.socscimed.2013.04.020>
- Modrek, S., Stuckler, D., McKee, M., Cullen, M., & Basu, S. (2013). A review of health consequences of recession internationally and a synthesis of the US response during the great recession. *Public Health Reviews*, 35(1), 1–34.
- Piette, J. D., Rosland, A. M., Silveira, M. J., Hayward, R., & McHorney, C. A. (2011). Medication cost problems among chronically ill adults in the US: Did the financial crisis make a bad situation even worse. *Patient Preference and Adherence*, 5, 187–194.
- Pruchno, R., Heid, A. R., & Wilson-Genderson, M. (2017). The great recession, life events, and mental health of older adults. *The International Journal of Aging and Human Development*, 85(3), 294–312. <https://doi.org/10.1177/0091415016671722>
- Schneider, D., Harknett, K., & McLanahan, S. (2016, April). Intimate partner violence in the great recession.

- Demography*, 53(2), 471–505. <https://doi.org/10.1007/s13524-016-0462-1>
- Travers, J., Cohen, C. C., Dick, A. W., & Stone, P. W. (2017). The great American recession and forgone healthcare: Do widened disparities between African-American and Whites remain? *PLoS One*, 12(12): e0189676. <https://doi.org/10.1371/journal.pone.0189676>
- Tu, H. T. (2011). *Access to care tracking report*. Mathematica Policy Research. Center for Studying Health System Change.
- Turner, A. M., Osterhage, K. P., Taylor, J. O., Hartzler, A. L., & Demiris, G. (2018). A closer look at health information seeking by older adults and involved family and friends: Design considerations for health information technologies. In *AMIA annual symposium proceedings* [Symposium] (pp. 1036–1045). American Medical Informatics Association.
- U.S. Bureau of Labor Statistics. (2020, June 19). *State employment and unemployment summary-May 2020*. Economic News Release. bls.gov/news.release/laus.nr0.htm