CONTINUING EDUCATION
CE 2.0 ANCC CONTACT HOURS

Identifying Health Consumers' eHealth Literacy to Decrease Disparities in Accessing eHealth Information

Hyejin Park, PhD, RN, Eileen Cormier, PhD, RN, Glenna Gordon, Jung Hoon Baeg, MS

The increasing amount of health information available on the Internet highlights the importance of eHealth literacy skills for health consumers. Low eHealth literacy results in disparities in health consumers' ability to access and use eHealth information. The purpose of this study was to assess the perceived eHealth literacy of a general health consumer population so that healthcare professionals can effectively address skills gaps in health consumers' ability to access and use high-quality online health information. Participants were recruited from three public library branches in a Northeast Florida community. The eHealth Literacy Scale was used. The majority of participants (n = 108) reported they knew how and where to find health information and how to use it to make health decisions; knowledge of what health resources were available and confidence in the ability to distinguish high- from low-quality information were considerably less. The findings suggest the need for eHealth education and support to health consumers from healthcare professionals, in particular, how to access and evaluate the quality of health information.

KEY WORDS: eHealth literacy, Health literacy, Internet, Online health information

The increasing amount of high-quality health information available on the Internet represents an important source of health information for health consumers. According to a recent survey by Pew Research Center,[1] 87% of American adults used the Internet, and 72% of Internet users looked online for health information within the past year. Other Pew Research Center studies report 75% of Internet users state their last health search significantly affected their health decisions,[2] and 39% indicated the information they found changed their health-coping behaviors for chronic diseases.[3]

Concurrent with the emergence of consumer-directed eHealth resources, health consumers are increasingly responsible for accessing and evaluating electronic health information resources. Consumer engagement in health-related decision making has also increased in health service delivery.[4] Because online health information can affect health consumers' health decisions and health outcomes, it is important for them to possess eHealth literacy, defined as "the ability to seek, find, understand, appraise online health information, and apply the knowledge to make a health decision."[5]

The Internet provides a portal for everyone to access available health knowledge, but disparities exist in consumers' ability to parse the health information they read. The low level of eHealth literacy of some consumers makes it more difficult for them to retrieve and comprehend online health information. Moreover, the quality of online health information varies with some sources of health information being of very low quality.[6] Hence, an ability to distinguish between high- and low-quality online health information sites is a critical skill for health consumers, in particular, those health consumers seeking specific, valid, and reliable high-quality online health information.[5–7]

Many health consumers report they have limited eHealth literacy skills to engage online health resources effectively.[8,9] This means there is often a gap between the online health information available and consumers' ability to find and use the information. Norman and Skinner[5] argue that the mismatch between what online health information is provided and what health consumers are able to access should be determined and remedied. An understanding of the deficits in current consumers' eHealth literacy skills is needed to enable heath care providers to effectively address and remedy skills gaps in the context of eHealth service delivery.[10] To date, most of the literature on literacy and health has focused on health literacy in relation to paper-based resources, as opposed to literacy in electronic-based environments.[5,11] Only a few studies have specifically assessed eHealth literacy, focusing on discrete populations such as college students,[12] older adults,[13] and parents of children with special healthcare needs.[14] The purpose of this study was to assess the eHealth literacy skills of a general health consumer population so that healthcare professionals can effectively address skills gaps in health consumers' ability to access and use high-quality online health information. The specific aims were (1) to assess participants' eHealth literacy and (2) determine if there are relationships between eHealth literacy skills and individual characteristics of participants.

Author Affiliations: Center for Research and Evidence Based Practice (Dr Cormier), College of Nursing (Dr Park and Ms Gordon), and College of Communication and Information (Mr Baeg), Florida State University, Tallahassee.

The authors have disclosed that they have no significant relationship with, or financial interest in, any commercial companies pertaining to this article.

Corresponding author: Eileen Cormier, PhD, RN, College of Nursing, Florida State University, 98 Varsity Way, PO Box 3064310, Tallahassee, FL 32306 (eCormier@nursing.fsu.edu).

Copyright © 2016 Wolters Kluwer Health, Inc. All rights reserved.

METHODS

Sample, Recruitment, and Ethics

This descriptive study used convenience sampling to recruit participants. After receiving approval from the institutional review board at the researcher's institution, permission was obtained from library directors in three public library branches in a Northeast Florida community. The researchers visited the public libraries weekly to recruit participants and collect data for 2 months. The purpose of the study was explained to participants before obtaining consent from those willing to fill out the questionnaires. A total of 111 questionnaires were returned at three public libraries; three were incomplete. The remaining 108 questionnaires were analyzed for this study. Participants included men and women older than 18 years, of all ethnic groups, with the ability to read and write English.

Questionnaire: eHealth Literacy Scale

Participants' eHealth literacy was measured using the eHealth Literacy Scale (eHEALS).[5] This eight-item self-report questionnaire focuses on knowledge and understanding of what health information is available on the Internet, where one can find helpful health resources, how to access this information, how to use the Internet to answer questions about health, skills to evaluate online health information, and ability to discern high- from low-quality health resources on the Internet. Each item is rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Total scores of the eHEALS are summed to range from 8 to 40, with higher scores representing higher self-perceived eHealth literacy. A score of 24 or higher on the eHEALS denotes high eHealth literacy.15 An internal consistency reliability of Cronbach's α = .89 to .97 with good test-retest reliability has previously been reported for this scale. In this study, two supplemental items recommended by the authors of eHEALS[5] were included in order to assess perceived usefulness of the Internet for making health decisions (a five-point-Likert scale ranging from 1 = not useful at all to 5 = very useful) and perceived importance of being able to access health resources on the Internet (also a five-point Likert scale ranging from 1 = not important at all to 5 = very important).

Data Analysis

Descriptive statistics were computed to summarize demographic characteristics, total score on the eHEALS, individual eHEALS scale items, and Internet usage and perceived usefulness/importance. In order to identify differences in eHealth literacy related to demographic characteristics (age, gender, race, educational level, marital status, income, employment status, health status, hours per day of Internet use, and years of Internet use), analysis of variance (ANOVA) methods were utilized in conjunction with pairwise comparison procedures where appropriate. Once it was determined which demographic variables yielded significant relationships with the overall eHealth literacy score, individual eHEALS items were compared with those demographic variables using the χ^2 test of independence (Pearson χ^2).

RESULTS

Demographic Characteristics

Participant demographic characteristics and associated eHealth literacy scores are presented in Table 1. Of the 108 library users who participated, 51.9% (n = 56) were female, and 48.1% (n = 52) were male. This is consistent with the gender distribution in Leon County, FL, of 93 males for every 100 females.[16] More than half (n = 71 [65.7%]) of the respondents were older than 50 years, with the youngest age group (18-29 years) being the least represented (n = 4 [3.7%]). Approximately half were white (n = 56 [51.9%]); slightly more than one-third were black or African American (n = 40 [37.0%]). Approximately half of the participants (n = 53 [49.1%]) were married, with the remaining participants either single, never married (n = 28 [25.9%]), or divorced/widowed/separated (n = 27 [25.0%]). The majority had at least some college education (n = 25 [21%]), followed by a BA/BS (n = 18 [16.7%]) or master's degree (n = 18 [16.7%]), a high school diploma or GED (n = 16 [14.8%]), and a doctorate (n = 13 [12.0%]). Reported annual household income was predominantly below the county median income of $44 824, with 34 (31.5%) and 33 respondents (30%) reporting less than $25 000 per year and between $25 000 and $50 000 per year, respectively. Of note, the percentage of participants who reported earning more than $50 000 per year was equal to the percentage with a bachelor's degree or higher, 37.9% (n = 41). Almost half of the respondents (45.6%) reported that they were either not working (n = 23 [21.3%]) or retired (n = 26 [24.1%]); 40.7% (n = 44) reported that they were employed full time. The majority of participants reported their health status was very good (n = 46 [42.6%]).

eHealth Literacy Skills and Internet use

As shown in Table 1, mean eHealth literacy score for participants in this study was 29.27 (SD, 5.89). The sample mean was not statistically different from the eHEALS benchmark score of 24,[15] but can be interpreted as slightly higher than average eHealth literacy. Most of the respondents reported that they knew what health-related resources were available on the Internet (n = 62 [57.4%]), where to find them (n = 75 [69.4%]), how to find helpful health resources (n = 81 [75%]), how to use the Internet to answer questions about health (n = 78 [72.3%]), and how to use the health information they find on the Internet to help themselves (n = 73 [77%]). However, whereas 69.5% (n = 75) indicated that they had the skills needed to evaluate health resources found on the Internet and 60% (n = 66) reported they felt confident in using this information to make health decisions, only

Copyright © 2016 Wolters Kluwer Health, Inc. All rights reserved.

Table 1. Summary of Demographics

Demographic Variable	N	%	Mean (SD)
Gender			
Female	56	51.9	31 (6)
Male	52	48.1	28 (6)
Age, y			
18–29	4	3.7	34 (4)
30–39	13	12.0	28 (7)
40–49	20	18.5	29 (5)
50–59	34	31.5	28 (7)
60–69	25	23.1	31 (5)
>70	12	11.1	28 (4)
Race			
Black/African American	40	37.0	30 (5)
White/Caucasian	56	51.9	29 (6)
Other	12	11.1	28 (7)
Highest educational level attained			
No high school diploma	8	7.4	28 (7)
High school diploma/GED	16	14.8	27 (7)
Some college	25	23.1	29 (4)
AA/AS	10	9.3	28 (7)
BA/BS	18	16.7	32 (4)
Master's degree	18	16.7	28 (7)
Doctoral degree	13	12.0	32 (5)
Marital status			
Single, never married	28	25.9	28 (6)
Married	53	49.1	30 (5)
Separated/divorced/widowed	27	25.0	30 (7)
Annual household income			
<$25 000	34	31.5	27 (6)
$25 000–$34 999	10	9.3	33 (3)
$35 000–$49 999	23	21.3	29 (6)
$50 000–$74 999	20	18.5	30 (7)
>$75 000	21	19.4	30 (4)
Employment status			
Full-time	44	40.7	31 (4)
Part-time or self-employed	15	13.9	28 (8)
Not working	23	21.3	27 (6)
Retired	26	24.1	28 (5)
Health status			
Excellent	22	20.4	31 (5)
Very good	46	42.6	29 (6)
Good	30	27.8	30 (4)
Fair or poor	10	9.3	25 (10)
Total	108	100	29.27 (5.89)

54.9% (n = 59) reported they could distinguish high-quality health resources from low-quality resources.

Table 2 summarizes the Internet usage of the participants and eHealth literacy scores. The majority reported they had been using the Internet for more than 10 years (n = 47 [43.5%]) and used it from 1 to 4 hours per day (n = 79 [73.1%]). With regard to health information, a large percentage indicated that accessing health resources on the Internet was important or very important (n = 85 [78.7%]) and useful or very useful in helping them to make decisions regarding their health (n = 84 [77.8%]).

Differences in Overall eHealth Literacy

In relation to demographic characteristics, eHealth literacy was significantly associated with gender ($P = .01$), employment status ($P = .005$), hours per day of Internet use ($P < .001$), and years of Internet use ($P = .002$). Women perceived they had higher levels of eHealth literacy than did men. Participants who were employed full time also reported higher eHealth literacy than all other groups, in particular, those who were not employed ($P = .026$). Participants who spend 3 to 4 hours per day on the Internet reported higher eHealth literacy than all other subgroups; eHealth literacy levels were lower for those who spend no time on the Internet relative to participants who spend 1 to 2 hours per day ($P < .001$), 3 to 4 hours per day ($P < .001$), or 5 to 10 hours per day on the Internet ($P < .001$). Although not statistically significant, it is worth noting that non–Internet users' eHealth literacy scores were 7.5 (SD, 2.9) points lower than those who spend 11 or more hours per day on the Internet. The lack of statistical significance here is likely due to the small number of

Table 2. Internet Usage and Importance

Internet Usage Variable	n	%	Mean (SD)
Hours per day spent on the Internet			
None	9	8.3	21 (8)
1–2	52	50.0	29 (5)
3–4	25	23.1	32 (5)
5–10	15	13.9	32 (4)
11–15	4	3.7	30 (7)
>16	1	0.9	—
Years of Internet use			
None	10	9.3	22 (9)
<1	11	10.2	30 (5)
1–3	9	8.3	30 (5)
4–5	10	9.3	29 (4)
6–10	21	19.4	29 (5)
>10	47	43.5	31 (5)
Usefulness of Internet in making health-related decisions			
Not useful	6	5.6	26 (6)
Unsure	18	16.7	24 (8)
Useful	51	47.2	29 (4)
Very useful	33	30.6	34 (4)
Importance of accessing health-resources on the Internet			
Not important at all	3	2.8	24 (14)
Not important	8	7.4	24 (5)
Unsure	12	11.1	25 (6)
Important	43	39.8	29 (4)
Very important	42	38.9	32 (5)

Copyright © 2016 Wolters Kluwer Health, Inc. All rights reserved.

participants in the cohort who indicated they spent 11 or more hours on the Internet (n = 5).

When examining the pairwise differences among participants' years of Internet usage, the assumption of constant variance across groups was violated. As a result, Dunnett T3 was used to test for pairwise comparisons on this variable. Although the differences were not statistically significant, on average, participants with no history of Internet usage had eHealth literacy scores that were between 6.7 and 8.7 points lower than did all other groups. The same violation in the assumption of constant variance across groups occurred when appraising the relationship between health status and eHealth literacy. Although the overall ANOVA *P* value was not significant, the researchers determined that examination of the pairwise comparisons using Dunnett T3 was justified because it accounts for the unequal variances across groups. Participants who perceived their health status as excellent demonstrated significantly higher eHealth literacy levels than did those who described their health status as poor ($P = .024$).

Relationship Between eHealth Literacy Scale Items and Demographic Variables

Only demographic variables that yielded a significant association with overall eHealth literacy were included in the analysis of individual eHEALS items using the χ^2 test. These included gender, employment status, health status, hours per day of Internet use, and years of Internet use. Knowledge of what health resources are available ($P = .031$) and where to find health resources on the Internet ($P = .002$) was positively associated with the hours per day spent on the Internet.

Knowledge of how to find helpful health resources on the Internet was significantly associated with gender ($P = .049$), employment status ($P = .018$), hours per day spent on the Internet ($P = .001$), and years of Internet use ($P = .026$). Participants who were female, were employed full time, had been using the Internet for longer than a year, and spent 1 to 2 hours or more per day on the Internet were most likely to report that they know how to find helpful health resources on the Internet.

Knowledge of how to use the Internet to answer questions about health was significantly associated with participant health status ($P = .010$), hours per day spent on the Internet ($P < .001$), and years of Internet use ($P = .005$). Similarly, knowledge of how to use the information they found on the Internet to help resolve a health issue was associated with the hours per day spent on the Internet ($P = .001$) and years of Internet use ($P = .014$) and confidence in the ability to evaluate health resources was significantly associated with health status ($P = .017$) and hours per day spent on the Internet ($P = .047$). Ability to discriminate high-quality from low-quality health resources on the Internet was also associated with employment status ($P < .001$) and confidence in using this information to make health decisions was associated with both employment status ($P = .013$) and health status ($P = .004$). As would be expected, participants who claimed they had fair or poor health status, were not employed, never spent time on the Internet, and had been using the Internet for less than 1 year were least likely to report that they know how to use the Internet to pursue queries about their health, evaluate the quality of Internet health information, and use that information to make important health decisions.

DISCUSSION

The present study assessed the perceived eHealth literacy of health consumers using the eHEALS. eHealth literacy scores of adult participants in this study were on average higher than those reported in previous studies.[15,17,18] The participants' high eHealth literacy is likely a function of population characteristics, the setting, and other factors that would require further study to fully understand. Consistent with the findings of other studies, the vast majority of participants perceived the Internet as a valuable resource in helping them make decisions about their health.[12,17] eHealth literacy skills in relation to how to use the Internet and where and how to access health information were reportedly high, but knowledge of what health resources are available on the Internet was considerably less. This suggests that how to find health information and how to use Internet are related to Internet skills, whereas what health resources are available and where to find them are situated in specific knowledge about online health information Web sites. Even though many people have search skills, associated with computer literacy, they do not know what useful online health information exists and where they can find that information in a Web-based environment. For example, a Google search for "common cold" in February 2015 yielded 37 600 000 results.[19] It can be difficult to sort through so much information. Pew Internet and American Life Project[20] found that the amount of information provided on the Internet can be overwhelming to consumers. Many health information seekers are unable to decipher which Web sites are most useful and reliable for them.

A majority of participants in this study indicated they did not feel confident in their ability to differentiate between high- and low-quality health-related Web sites on the Internet. This self-perception suggests a potential limitation in health consumers' ability to identify key criteria that could help them discern which health information Web sites on the Internet can be trusted. Previous studies of health literacy confirm that of those who have access to health information online in the US report that they have difficulty evaluating whether that information is credible.[12,21,22] If health consumers are using the Internet to access health related information, health professionals have an obligation to raise their awareness and help them identify credible Web sites. Contents of the Web sites on health topics should be

Copyright © 2016 Wolters Kluwer Health, Inc. All rights reserved.

evaluated to determine whether they provide any misinformation. Professionals also should be involved in developing and promoting high-quality health information Web sites so that health consumers are able to access qualified online information to make health decisions.

In addition to not feeling confident about their ability to assess health resource quality, a majority of participants reported they did not feel confident using the information from the Internet to make health decisions. This uncertainty is consistent with findings of previous studies, in which participants scored the lowest on confidence in using information from the Internet to make health decisions.[17,23] In keeping with Robb and Shellenbarger[23] and Brown and Dickson,[17] these findings suggest even though health consumers can retrieve online health information, they might not be secure enough about their knowledge to make good decisions about their health options.

In this study, eHealth literacy skills were significantly associated with gender, employment status, health status, hours per day of Internet use, and years of Internet use, whereas others, such as age, race, education level, marital status, and income level, were not. This is not surprising because eHealth literacy skills are connected to operational Internet usage skills, which co-occur with Internet use experience. Hargittai[24] also reported people who have been Internet users for longer periods are presumed to be better at finding information online because they have more experience to draw on. Women in this study reported higher eHealth literacy than did men. Several researchers have noted that women are the primary health information seekers for their families, which may explain their drive and predisposition to seek health information on the Internet.[17,25–27]

The importance of employment status in this study in relation to eHealth literacy skills is not unexpected. It is likely that full-time employees have more opportunity to be exposed to or are required to have computer skills than others. Perceived health status was associated with eHealth literacy in the study sample. One might assume that if people perceive that they have excellent health they would be more likely to search for health information online to prevent illnesses and manage their health status, and as they gain experience searching for online information, their eHealth literacy would improve in kind. Neter and Brainin's[28] study, however, reported no significant difference between the high and low eHealth literacy groups in perceived health. It may be that those with excellent health may obtain their health information from other resources such as printed Internet pages, friends/family, and healthcare providers. Indeed, according to studies reported by Pew Research Center,[29] 70% of adults obtain their health information from healthcare professionals, 60% from friends and family, and 24% from others who have the same health condition.

Although a significant relationship between eHealth literacy and age was not identified in this study, other studies[30,31] have reported higher eHealth literacy levels among younger health consumers. A likely explanation for the lack of significance in this study is that participants were on average 50 years or older, with only four participants younger than 29 years. Educational level in this study was not associated with eHealth literacy. This finding is consistent with other studies in which education was not a significant contributor to operational Internet skills and greater eHealth literacy.[28,31] A recent study,[30] however, reported that patients with rheumatoid arthritis with higher education and higher Internet skills followed through on assignments and managed their health condition better. Further consideration of this variable in future research is clearly warranted.

The analysis revealed several positive relationships between individual eHEALS items and demographic characteristics of participants. Being female was associated with better skills in accessing helpful health resources, and participants who were employed were more likely to report they could discern high- and low-quality information and use that health information. Several eHEALS items were associated with years of Internet use and hours of Internet use per day, but discriminating high- from low-quality information and confidence in using health information to manage health problems was not. These findings suggest the need for eHealth education and support to health consumers from healthcare professionals. Healthcare providers can recommend credible Web sites to patients and help them learn how to conduct effective searches and evaluate the quality of health information.

Limitations

Several limitations of the study should be noted. First, consumers' eHealth literacy was measured using a self-report measure. Perceived skills are not necessarily a reflection of actual skills. Second, the sample size was small and circumscribed, such that associations between age and perceived health status and eHealth literacy were difficult to detect.

CONCLUSION

A central goal of Healthy People 2020 is to decrease health disparities and to improve health literacy.[32] eHealth literacy is an important component of health literacy because online health information is gradually increasing in the technology era. Identifying and assessing health consumers' eHealth literacy level are an essential first step to inform strategies for improving their eHealth literacy.

References

1. Pew Research Center health fact sheet 2014. http://www.pewInternet.org/fact-sheets/health-fact-sheet/. Accessed March 3, 2015.
2. Fox S. The engaged e-patient population, Pew Internet and American Life Project, August 26, 2008. http://www.pewInternet.org/2008/08/26/the-engaged-e-patient-population/. Accessed March 3, 2015.
3. Fox S. Online health search 2006. http://www.pewInternet.org/files/old-media/Files/Reports/2006/PIP_Online_Health_2006.pdf. Accessed March 3, 2015.

Copyright © 2016 Wolters Kluwer Health, Inc. All rights reserved.

4. Norman CD. Skills essential for eHealth. Health literacy and eHealth. In: *Health Literacy, eHealth, and Communication: Putting the Consumer First. US Institute of Medicine*. Washington, DC: National Academies of Science; 2009: 10–13.
5. Norman CD, Skinner HA. eHealth literacy: essential skills for consumer health in a networked world. J Med Internet Res. 2006;8(2): e9.
6. Stellefson M, Hanik B, Chaney B, Chaney D, Tennant B, Chavarria E. eHealth literacy among college students: a systematic review with implications for eHealth education. *J Med Internet Res*. 2011;13(4): e102.
7. Healthy people 2020. Health communication and health information technology. http://www.healthypeople.gov/2020/topics-objectives/topic/health-communication- and-health-information-technology. Accessed March 3, 2015.
8. Park H, Moon M, Baeg JH. Association of eHealth literacy with cancer information seeking and prior experience with cancer screening. *Comput Inform Nurs*, 2014;32(9): 458–463.
9. Gray NJ, Klein JD, Noyce PR, Sesselberg TS, Cantrill JA. The Internet: a window on adolescent health literacy. *J Adolesc Health*. 2005;37(3): 243.
10. Norman CD, Chirrey S, Skinner HA. Consumer perspectives on e-Health. In: Skinner HA, ed. *Promoting Health Through Organizational Change*. San Francisco, CA: Benjamin Cummings; 2002: 315–334.
11. Nielsen-Bohlman L, Panzer AM, Kindig DA. *Health Literacy: A Prescription to end confusion*. Washington, DC: National Academies Press; 2004.
12. Park H, Lee E. Self-reported eHealth literacy among undergraduate nursing students in South Korea: a pilot study. *Nurse Educ Today*. 2015;35(2):408–413.
13. Manafo E, Wong S. Assessing the eHealth literacy skills of older adults: a preliminary study. *Health Educ Res*. 2014;16(4): 369–381.
14. Knapp C, Madden V, Wang H, Sloyer P, Shenkman E. Internet use and eHealth literacy of low-income parents whose children have special health care needs. *J Med Internet Res*. 2011;13(3): e75.
15. Mitsutake S, Shibata A, Ishii K, Oka K. Association of eHealth literacy with colorectal cancer knowledge and screening practice among Internet users in Japan. *J Med Internet Res*. 2012;14(6): e153.
16. US Census Bureau 2014 American community survey 1 year estimates: age and sex. http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?fpt=table. Accessed September 30, 2015.
17. Brown CA, Dickson R. Healthcare students' e-Literacy skills. *J Allied Health*. 2010;39(3): 179–184.
18. van der Vaart R, van Deursen AJ, Drossaert CH, Taal E, van Dijk JA, van de Laar MA. Does the eHealth Literacy Scale (eHEALS) measure what it intends to measure? Validation of a Dutch version of the eHEALS in two adult populations. *J Med Internet Res*. 2011;13(4): e86.
19. World Wide Web. Common cold. https://www.google.com/webhp?sourceid=chrome-instant&ion=1&espv=2&ie=UTF-8#q=%22common+cold%22. Accessed September 30, 2015.
20. Pew Internet and American Life Project. 2010. News on the go. http://www.pewinternet.org/2010/03/01/part-4-news-on-the-go/. Accessed September 30, 2015.
21. Metzger MJ Making sense of credibility on the web: Models for evaluating online information and recommendations for future research. *JASIS*. 2007;58(13): 2078–2091.
22. Turow J, Colluccio K, Hersh A, et al. Discussions of health Websites in medical and popular press. 2003. http://repository.upenn.edu/cgi/viewcontent.cgi?article=1037&context=asc_papers. Accessed March 3, 2015.
23. Robb M, Shellenbarger T. Influential factors and perceptions of eHealth literacy among undergraduate college students. *Online J Nurs Inform*. 2014; 18(3).
24. Hargittai E. Survey measures of Web-orientated digital literacy. *Soc Sci Comput Rev*. 2005;23(3): 371–379.
25. Baur C. An analysis of factors underlying e-health disparities. *Camb Q Healthc Ethics*. 2008;17(4): 417–428.
26. Ghaddar SF, Valerio MA, Garcia CM, Hansen L. Adolescent health literacy: the importance of credible sources for online health information. *J Sch Health*. 2012;82(1): 28–36.
27. Tennant B, Stellefson M, Dodd V, et al. eHealth literacy and Web 2.0 health information seeking behaviors among baby boomers and older adults. *J Med Internet Res*. 2015;17(3): e70.
28. Neter E, Brainin E. eHealth literacy: extending the digital divide to the realm of health information. *J Med Internet Res*. 2012;14(1): e19.
29. 29. Pew Research Center. Clinicians remain a central resource. 2013. http://www.pewInternet.org/fact-sheets/health-fact-sheet/. Accessed March 3, 2015.
30. van der Vaart R, Drossaert CH, de Heus M, Taal E, van de Laar MA. Measuring actual eHealth literacy among patients with rheumatic diseases: a qualitative analysis of problems encountered using Health 1.0 and Health 2.0 applications. *J Med Internet Res*. 2013;15(2): e27.
31. van Deursen AJ, van Dijk JA. Internet skills performance tests: are people ready for eHealth? *J Med Internet Res*. 2011;13(2): e35.
32. Koh HK, Piotrowski JJ, Kumanyika S, Fielding JE. Healthy People A 2020 vision for the social determinants approach. *Health Educ Behav*. 2011;38(6):551–557.

For more than 41 additional continuing education articles related to computers go to NursingCenter.com\CE.

Instructions for Taking the CE Test Online
Identifying Health Consumers' eHealth Literacy to Decrease Disparities in Accessing eHealth Information

- Read the article. The test for this CE activity can be taken online at www.nursingcenter.com/ce/CIN. Tests can no longer be mailed or faxed.
- You will need to create a free login to your personal CE Planner account before taking online tests. Your planner will keep track of all your Lippincott Williams & Wilkins online CE activities for you.
- There is only one correct answer for each question. A passing score for this test is 13 correct answers. If you pass, you can print your certificate of earned contact hours and the answer key. If you fail, you have the option of taking the test again at no additional cost.
- For questions, contact Lippincott Williams & Wilkins: 1-800-787-8985.

Registration Deadline: February 28, 2018

Disclosure Statement:

The author and planners have disclosed no potential conflicts of interest, financial or otherwise.

Provider Accreditation:

Lippincott Williams & Wilkins, publisher of *CIN, Computers Informatics Nursing*, will award 2 contact hours for this continuing nursing education activity.

Lippincott Williams & Wilkins is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

This activity is also provider approved by the California Board of Registered Nursing, Provider Number CEP 11749 for 2 contact hours. Lippincott Williams & Wilkins is also an approved provider of continuing nursing education by the District of Columbia and Florida CE Broker #50-1223. Your certificate is valid in all states.

Payment:

- The registration fee for this test is $21.95.

Copyright © 2016 Wolters Kluwer Health, Inc. All rights reserved.