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9-1-2015

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### Recommended Citation

Dugan-Day, Michele L.; Dollar, Susan C.; and Kaf, Wafaa A. (2015) "Rural Older Adults and Functional Health Literacy: Testing Self-efficacy, Knowledge and Skills Resulting from Hands-on Health Promotion," *Contemporary Rural Social Work Journal*: Vol. 7: No. 2, Article 8.

DOI: <https://doi.org/10.61611/2165-4611.1086>

Available at: <https://digitalcommons.murraystate.edu/crsw/vol7/iss2/8>

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## **Rural Older Adults and Functional Health Literacy: Testing Self-efficacy, Knowledge and Skills Resulting from Hands-on Health Promotion**

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**Abstract.** Functional Health Literacy (FHL) involves the knowledge, skills and belief in self-efficacy to use health care information in self-care. FHL is critical for rural older adults since they are at risk of poor health care outcomes. As part of the Senior Health University project, we measured the FHL of rural older adults before and after educational sessions that included hands-on skill building. Ninety-eight participants aged 60 and older were recruited from five rural congregate meal sites over two years. Survey methods allowed for paired sample *t*-tests of FHL variables. Findings included significant post-training increases in FHL, suggesting the potential benefit of FHL training for rural older adults. Andersen's (1995) Behavioral Model of Health Services Use guided this study of the effects of health promotion on health services use, standardization of practical measurement tools, and examination of modalities in rural settings. Research is needed to test the relationship of increased FHL and use of health services by rural participants and to explore the role of online resources and service use in vulnerable older adult populations.

**Keywords:** health literacy, functional health literacy, behavioral model of health services use, older adults, rural health, health promotion, social work, communication

An undeniable change in the dynamic health care environment is the increased responsibility of health care consumers to understand and manage their own care. The ability to understand health information, or Health Literacy (HL), is central to self-care. As the individual's role in health care increases, there is a concomitant concern about the skills of the vulnerable aged to effectively utilize health care information (Baker & Gazmararian, 2000; Berkman, Sheridan, Donahue, Halpern, & Crotty, 2011; Zamora & Clingerman, 2011). About 62% of older adults (39% of people aged 75 or older and 23% aged 65 to 74) have significantly below average HL rates (CDC, 2009). Therefore, HL is a critical issue for older adults.

By the year 2030, the number of persons over the age of sixty-five will double to seventy million. This means that one in five individuals living in the United States will be sixty-five years and older (Vincent & Velkoff, 2010). Health promotion for older adults can include a functional dimension that may address the self-care needs of this growing population. While HL involves the study of theories and practices used to understand health information, Functional Health Literacy (FHL) pertains to demonstrating skills, such as comprehending information, asking the appropriate questions of health providers, and accessing reliable sources of medical and health information online. The addition of function brings the engagement of older adults in using health care information to explore, monitor and act on health promotion.

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In rural communities, adults aged 65 and older represent a larger proportion of the population than in urban areas (18% versus 15%, respectively) (National Rural Health Association, 2015; Hutchison, Hawes, & William, 2004). Factors that may contribute to a large proportion of rural older adults include: (a) aging in place; (b) youth outmigration; and (c) relocation to smaller communities.

Older adults residing in rural areas seem to be most at risk of having low HL and related poor health outcomes (Berkman et al., 2011). Compared with their urban counterparts, rural older adults tend to have lower income, lower educational attainment, less health insurance coverage, and less access to transportation, emergency and specialty health care services, and these barriers contribute to poorer self-reported health status (Averill, 2005; RAC, 2012). Rural older adults, in particular, underutilize health services and many wait until they are very ill before seeking treatment compared to urban residents (Hutchinson, Hawes, & Williams, 2004). Increased self-efficacy beliefs would likely empower rural older adults to make the most of the access that they do have, and request more access.

Health Literacy information is the key to reducing barriers for rural older adults to recognize when care is needed. Approaches to promoting knowledge and skills include increasing older adults' ability to interact with healthcare providers and providing easy to understand reading materials. Educational interventions can increase older adults' knowledge and skills on a variety of common self-care topics, as well as on computer searches and Internet use. Improving older adults' self-efficacy skills could be achieved through the same educational interventions. With knowledge, skills, and empowerment, older adults may take a more active role in their health care.

## **Literature Review**

### **Health Literacy and Functional Health Literacy**

Health Literacy is defined by the American Medical Association as “the ability to obtain, process, and understand basic health information and services needed to make appropriate health decisions and follow instructions for treatment” (American Medical Association, 2014, para. 1). Eighty percent of older adults have limited health literacy skills (Schwartzberg, VanGeest, & Wang, 2005), and lack of HL results in fewer preventative measures, more frequent emergency room visits, higher rates of hospital admissions, and poorer overall health (Young, Weinert, & Spring, 2012). Patients with low HL are at greater risk of misunderstanding treatment recommendations and having problems in accurately taking prescription medications (Kutner, Greenburg, Jin, & Paulson, 2006; Wolf, Gazmararian, & Baker, 2005). Lower levels of HL also translate into higher healthcare costs with higher usage of health services (Schwartzberg, VanGeest, & Wang, 2005). Improving HL seems likely to improve ability to self-manage health care and perhaps prevent frequent hospitalizations (Kutner, Greenburg, Jin, & Paulson, 2006).

Some older adults face additional challenges as they have mental health issues which can compromise HL and FHL. Psychological changes in mood and self-concept can affect older adults' ability to communicate and to learn. Losses in old age, such as friends, family members, financial status, and social status can attribute to psychological problems, including depression and poor self-esteem (OSUMC, 2013, para 1). Special considerations, such as hearing loss, poor

vision, memory loss, fatigue, multiple medications, and their side effects affect older adults' ability to communicate and to practice a high degree of HL (CDC, 2009). Treating older adults with respect, by training them to be competent in communicating their health needs, is logically related to how well they navigate health care systems, and how confident they are when learning new approaches to self-care that can keep them independent.

Functional Health Literacy is likely to impact how older adults navigate the health care system even when loss and other challenges exist in their lives. To address the negative consequences of limited HL on the health of older adults, researchers have begun to explore FHL skill-building including engagement in self-care and active negotiation of chronic care and health promotion systems (Baker et al., 2002; Cho, Lee, Arozullah, & Crittenden, 2008; Nielsen-Bohlman, Panzer, & Kindig, 2004). Logically, educational offerings with hands-on skills practice are predicted to improve FHL.

### **Functional Health Literacy Instruction**

Functional Health Literacy education for the aged population requires practical instruction and immediate application (McCray, 2005; Speros, 2009; Woodson, Adams, Timm, & Jones, 2009). Such training is hypothesized to increase elders' skills and confidence regarding interactions with providers (Resnick, Luisi, & Vogel, 2008; Waldrop et al., 2001). For example, greater confidence in talking with health care professionals can increase the likelihood that health care instructions will be understood and followed, or alternatively, questioned, which might lead to a different way for the provider to educate. The FHL approach treats older adults with respect and potentially empowers them.

### **Theoretical Perspective for the Present Study**

The Behavioral Model of Health Services Use is central to Social Work Health Care (Gehlert, 2006). The Agency for Health Care Research and Quality (AHRQ) notes that the model is integrated into HL research, including work with vulnerable populations (AHRQ, 2011). The Behavioral Model of Health Services Use provides the theoretical perspective for the present study. At its core, the model links predisposing factors (demographics, social structure, health beliefs) through enabling resources (personal/family, community) into need (perceived, evaluated) to affect health services use (Andersen, 1995).

Regarding the first predisposing factor, *demographics*, the rural older adults in our study are a group with accompanying characteristics which can predispose them to poor FHL. The second predisposing characteristic is *social structure*. In our study this relates to the historical patronization by health providers which older adults have experienced throughout their lifetime (Brown & Draper, 2003). The third predisposing characteristic is *health beliefs*, which applies to the older adult's possible doubt of their self-efficacy in health care. The study targeted the older adults' health beliefs with hope of increasing their self-efficacy. It also challenged patronization by experts through empowering older adults with knowledge and skills formerly reserved for medical providers. We hypothesized that predisposing characteristics might be changed.

The enabling resources outlined in Andersen's model were also represented in our study: a) in the provision of training; and b) training offered in congregate meal sites—a resource of

social support. The model projects that affecting predisposing characteristics and enabling resources might influence perception of need and subsequent health service use (service use measurement exceeded the scope of the present study). In a step toward measuring impact on need perception and service use, this study measured whether self-efficacy and FHL knowledge/skills were gained from hands-on education designed for vulnerable older adults. We tested whether predisposing characteristics and enabling resources might be influenced by FHL health promotion.

Measurement of self-efficacy was represented by communication for health: questions to ask providers (we used the *Ask Me Three* from National Patient Safety Foundation, 2015), self-report of confidence talking to providers, and potential for interaction with FHL communications found online. Other measurements related to FHL were tests of knowledge and skills regarding topic areas of interest to the rural older adults. These were represented by answering questions on health information and demonstrating self-care skills.

### **Example of FHL Training in Rural Congregate Meal Sites**

Prior to study implementation, a pilot study was conducted at five centers to determine topical interest. All centers were provided training on communication with health care providers and online sources for FHL information. In the first year, all five centers received training on blood pressure. In year two, individual centers received the communications workshop supplemented by a topic selected by that center. The aims of the study are illustrated in the following examples of the hearing health and blood pressure workshops.

Older adults with hearing loss are shown to be at increased risk of accelerated declines in cognitive function (Lin, 2011; Lin et al., 2013). However, when hearing-impaired adults 65 and older used hearing aids for three months, they experienced significant improvements in quality of life, with an increase in cognitive function and a decrease in depressive symptoms (Acar, Yurekli, Babademez, Karabulut, & Karasen, 2011). Singer and Brownell (1984) reported that older adults were misinformed or lacked knowledge about hearing health. Therefore, we explored hearing health promotion for older adults to improve communication with health providers, thereby influencing FHL.

To implement hearing health promotion, the present study used a hands-on educational workshops and a short questionnaire—Hearing Handicap Inventory for the Elderly Screening Version (HHIE-S). The skill building educational workshop consisted of a short presentation about age-related hearing loss, then older adults were coached on how to interpret hearing test results, protect their hearing and prevent further hearing loss, and seek intervention for hearing loss. Hearing aid use and care were also demonstrated. Then, the short 10-item HHIE-S self-assessment questionnaire (Ventry & Weinstein, 1983) was given to participants for quick screening of how they perceive the social and emotional effects of hearing loss to assess and interpret their own hearing handicap (none vs. mild-moderate vs. significant hearing handicap). Knowledge and skills on hearing health and associated symptoms were pre- and posttested as part of the main knowledge/skills on health topics.

Workshops on blood pressure provided health promotion training. Patterson, Morzinski, Ertl, Wurm, Hayes, & Whittle (2011) explored the use of organizations such as rural congregate

meal sites to provide training about blood pressure to older veterans. They found positive associations between location of training and the willingness to participate and engage in the workshops. Our blood pressure training included information and illustration. Pre- and posttests of knowledge and skills were paper-based, but in the process of learning, the older adults demonstrated their ability to take their own blood pressure. In year one, in each of five workshops, communications and blood pressure topics were covered. In year two, each workshop included communications and a second topical workshop from a pilot assessment of that congregate site participants' interest (e.g., hearing health/depression, cancer prevention, advanced computer search methods, blood pressure).

## Methods

### Study Model and Hypotheses

Andersen's model outlined a pathway to increase appropriate service use through predisposing characteristics, enabling resources and perception of need (1995). In this study, the model was applied to a FHL program to rural older adults. Predisposing study characteristics included the rural residence of the population. Enabling resources included the workshop training. Study hypotheses were: 1) FHL training would influence self-efficacy health beliefs of rural older adults operationalized as communication survey items; and 2) workshops on FHL would influence health knowledge and skills operationalized as topical survey items.

The present study explored how local, experiential education might impact FHL of rural older adults. Also studied was how education on common health topics such as blood pressure, hearing health, exercise, depression, and cancer care might impact FHL knowledge and skills. This research was conducted as part of Senior Health University, a grant-funded interdisciplinary health promotion project serving rural older adults. The study was conducted in congregate meal sites which typically serve older adults living independently in their community. Computers used in training were donated to the centers and health information stations were set up in each one.

The five rural study communities were located in three rural counties as established by their population of less than 50,000 (OMB, 2003). Two of the three counties (Polk and Taney) are also federal Health Personnel Shortage Areas (HPSAs) due to critical shortages of primary care and mental health service personnel (HRSA, 2013). The HPSA designation indicates a need for trained health care providers, and suggests that health promotion education and referral services are important community needs.

The sample was comprised of older adults ( $n = 98$ ) who volunteered to participate in the workshops and study following their noon meal at selected congregate meal sites located in southwest Missouri. The congregate meal sites are part of a network of Area Agency on Aging (AAA) sites managed by the Southwest Missouri Office on Aging, and are designed to encourage independent and healthy living by coordinating and providing an array of services to older adults (SWMOA, n.d.). Each center that participated is located in small communities with distinctive features that attract older adults for various reasons. Forsyth and Branson are located in Taney County, which in the heart of the Ozark Mountains.

Bolivar in Polk County is a farming community and county seat, while Ozark and Nixa in Christian County are rapidly growing bedroom communities near Springfield, which is the third largest city in Missouri (USOMB, 2003). Each is considered nonmetropolitan or rural given their population is less than 50,000 (USOMB, 2003). Two of the three counties (Polk and Taney) are also designated federal Health Personnel Shortage Areas (HPSAs) due to critical shortages of primary care and mental health service personnel (HRSA, 2013). The HPSA designation indicates a need for trained health care providers, and suggests that health promotion education and referral services are essential.

The Missouri State University Institutional Review Board approval was obtained and all participants completed informed consent procedures. Instrumentation included paper surveys comprised of questions drawn from the literature on health care communication and training on health topics. The survey was neither standardized nor pretested. We elected not to collect information about the specific diagnoses or health conditions of the older adults due to inability to provide privacy. The congregate meal sites were provided a computer, printed health information, as well as a cash incentive of \$400 for the sites to encourage participation and continued use of online resources. Printed resources were also gifted to the centers. Participating older adults received a ticket for a meal at the center.

Missouri State University students (nursing, social work, audiology, and public health) involved in data collection received brief training by video in communication with older adults and research procedures toward reliability and validity of testing. Trainers and supervised students provided health education, an introduction to an online HL course, and hands-on practice of self-care skills. Student volunteers assisted program leaders with FHL assessments. After consents were explained and signed, participants were given a folder with workshop materials including a pretest. Instruments used were multiple choice and fill-in along with a skill demonstration opportunity. Students assisted with informed consent and testing so that participants had little wait time. Pretests were collected prior to training.

Researchers were concerned about total time of participation given possible stamina concerns for the older adults. A 20-minute workshop was conducted including communication and hands-on practice skills with a health topic. Students studying social work, nursing, audiology or public health assisted with skills-building with individual older adults. After the workshop, the same student administered a posttest with a matching number to the pretest collected from the older adult's folder. The instrument used for pre- and posttests of knowledge and skills had Likert scaled questions. Posttest surveys were completed in the 15 minutes immediately after the workshop. Total time for older adult participants was one hour.

In the first year, follow-up surveys were conducted by phone using the self-efficacy items as the core message measured for retention. The attempt yielded extremely low participation, and introduced hearing barriers. We realized that the older adults had no relationship with the caller or context for a follow-up occurring at 3 months after the training, so in year two the follow up-surveys were administered in person at the congregate meal sites by program leaders one month after each workshop. Follow-up surveys were collected from all congregate meal sites.

The survey measured knowledge, skills, and self-efficacy. Knowledge and skills were operationalized by items regarding specific health topics of interest to the rural older adults. Self-

efficacy was measured through communication questions such as, “How confident are you in talking to health providers?”; and “How likely are you to use the Internet for reliable health information?” Survey items are listed in Tables 1 and 2. Data were collected immediately before and after training, and then in year two some participants were contacted for a follow-up survey one month after the workshop.

For data analysis all items were transformed into a 0 – 4 point scale as follows. Survey items such as “very unlikely” were coded as 0; “unlikely” was coded as 1; “neutral” as 2; “likely” as 3 and “very likely” as 4. Items that required listing or demonstration were rated by researchers independently; ratings were compared and translated to a Likert scale of 0 - 4. The distribution of scores was tested for normality. Items measuring self-efficacy were analyzed with paired *t*-tests using the pre and post scores of individuals. Items from knowledge/skills on health topics were analyzed with paired *t*-tests using the pre/post scores. Analysis of year two follow-up of self-efficacy items utilized paired *t*-tests of posttest scores and follow-up scores.

## Results

Rural participants were attendees of congregate meal sites who were aged 60 and older, the same definition used by congregate meal sites (Southwest Missouri Office on Aging, 2015). Ninety-eight surveys were suitable for use in data analysis. The communication workshop was presented at all trainings in both years. The blood pressure workshop was presented at each site in year one. Thus, the reader will note a larger number of responses for those items. A total of 27 follow-up surveys were collected.

As Table 1 shows, 25% were age 80 and older. Women comprised 63% of the sample. Participants were primarily married (54%) or widowed (21%), and almost exclusively Caucasian (66%). Of the 98 research participants, 6% had less than a high school education; 37% finished high school or their GED, and 43% completed education past high school. In addition, study participants were on average 75 years of age.

Table 2 reports the paired *t* tests of items that were associated with Self-efficacy operationalized as Communication items. Items of particular interest to this report were: (a) questions to ask health providers; (b) confidence in talking with providers; (c) recognition of reliable web sites; and (d) use of computers for health information. All items showed significant gains in communication self-efficacy between pre/post educational workshops. Table 3 reports significant gains regarding specific health topics and FHL abilities. And Table 4 reports the measures of self-efficacy when evaluated one month after the workshops in year two.



Table 1

*Demographic Information*

	n	Valid percent
<b>Age</b>		
60-64	15	15.3
65-69	21	21.4
70-74	14	14.3
75-79	14	14.3
80-84	23	23.5
85 or Above	2	2.0
<u>No Response</u>	<u>9</u>	<u>9.2</u>
Total	98	100.0
<b>Ethnicity</b>		
Caucasian or White	66	67.3
American Indian	1	1.0
<u>No Response</u>	<u>31</u>	<u>31.6</u>
Total	98	100.0
<b>Gender</b>		
Female	62	63.3
Male	31	31.6
<u>No Response</u>	<u>5</u>	<u>5.1</u>
Total	98	100.0
<b>Marital Status</b>		
Single	9	9.2
Married	53	54.1
Divorced	3	3.1
Widowed	21	21.4
<u>No Response</u>	<u>12</u>	<u>12.2</u>
Total	98	100.0
<b>Education in years</b>		
0-8	2	2.0
9-11	4	4.1
12 or GED	37	37.8
>12	43	43.9
<u>No Response</u>	<u>12</u>	<u>12.2</u>
Total	98	100.0

Table 2

*Self-efficacy Pre and Post Communication Training Year 1 and 2 Total*

	n	Paired <i>t</i> -test	<i>p</i> -value
What is Medline Plus?	74	6.476	.000
What are the three questions (Ask Me 3) to ask your health provider?	98	11.872	.000
Confidence talking to health providers	98	3.68	.483
Do you feel it is important to use the internet to research health and medical questions?	25	1.445	.000
Is there a computer with internet access available for use at this senior center	74	4.308	.000

Table 3

*Knowledge/Skills Health Topics Pre and Post Training Year 1 and 2 Total*

Knowledge/ Skills Question	n	Paired <i>t</i> -test	<i>p</i> -value
The root of a medical word is often a body part.	98	5.45	.000
Matching prefix to medical word	98	5.74	.000
What is systolic number of blood pressure?	97	5.17	.000
Grains and blood pressure	97	6.56	.000
Hearing loss can be related to depression.	15	3.05	.009
Depression is a change in the brain, not just a feeling or mood.	12	1.91	.082
Can you list some possible causes of depression that may not be commonly known?	12	2.96	.013
Can you list an activity(ies) that might be a way to help yourself stay mentally fit?	12	3.63	.004
What are some things to do before taking a blood pressure?	98	7.73	.000
What are some things to know about placing the cuff?	98	7.38	.000
All blood pressure medicine works the same.	98	2.71	.007

Table 4

*Communication Self-Efficacy Post Training and One Month Follow-up Year Two*

Question	n	Paired <i>t</i> -test	<i>p</i> -value
Medline Plus	27	0.000	1.000
Ask Me 3	26	-3.430	.002
Confident talking to your health provider	24	0.113	.911
Likelihood of using computer to look up health information	26	0.531	.000
Availability of a computer with internet access for use at senior center	25	0.569	.000

### Discussion

Andersen's model outlined a pathway to increase appropriate health service use through predisposing characteristics, enabling resources, and perception of need (1995). In this study, the model was applied to a FHL program that provided hands-on health promotion training to rural older adults. We tested whether FHL training (enabling resource) could influence self-efficacy health beliefs (predisposing factor) of rural older adults. Findings in Table 2 support this first hypothesis as self-efficacy increased significantly between pre- and posttests. Retention of self-efficacy is supported by measures at the one month follow-up anniversary. The results suggest that predisposing characteristics and enabling resources may be influenced.

In a step toward measuring impact on need perception and ultimate service use, we tested whether FHL knowledge/skills were gained from hands-on education designed for vulnerable older adults. Significant gains were found. Measures used were sensitive enough to detect changes after one session, and it may be fruitful to further refine and standardize them. The method of assessing the interests of the older adults and providing short experiential training combined with the recruitment at congregate meal sites may be a successful implementation model.

Perhaps an increase in self-efficacy can empower rural older adults to overcome barriers to service use. A historic passive role for patients might be challenged by these rural older adults (Wolff, Clayman, Rabins, Cook & Roter, 2015). Measureable increases in self-efficacy suggest that rural older adults can be coached to make the most of provider contacts even when the contacts may be few and brief, and to develop an interest in online sources of health information. These skills may be vital in our dynamic self-care era for health care.

Only one significant change in self-efficacy (negative) was detected at the one month follow-up which indicates retention of most material. In year two, a loss of ability to recall the *Ask Me Three* questions must be noted. The researchers used the more arcane term *diagnosis* found in early *Ask Me Three*, rather than the currently suggested term *main problem* ("What is

my main problem?”), which may have increased intimidation of older adults to ask this question. Perhaps this part of the communication workshop was not as strong as other segments. Additionally, more practice may be required to travel the pathway from self-efficacy to fully empowered service use.

Findings in Table 2 support the hypothesis that FHL is malleable since knowledge and skills regarding specific health topics significantly increased. In each topical area the rural older adults learned and demonstrated health promotion knowledge and skills. The implementation and research methods may be instructive to conducting and measuring outcomes for health promotion training with rural older adults who attend congregate meal sites. As a natural enabling resource, the rural congregate meal sites may effectively offer FHL training. The Senior Health University project study demonstrated that rural older adults in this sample were interested in the FHL training and demonstrated significant post-workshop FHL gains. The program design elements likely related to success included the involvement of older adult participants in the selection of workshop topics. The project was designed to be non-intrusive on senior center staff time with financial incentives provided for staff involvement. The brief workshops and their timing (e.g., after lunch on popular meal days) appeared to improve older adult participation. Finally, student volunteers may have improved research participation because students interacted well with the older adults and encouraged survey completion.

Study limitations must also be noted, however. The design did not control for selection bias or utilize a control group. We did not compare rural and urban older adults. Participants self-selected and may have had a greater interest in FHL than non-participants. Some participants in year one may have been in year two workshops as well; however, research method and data analysis with paired *t*-tests is a stronger design than aggregated group testing. Student assistance with testing likely influenced to some degree outcomes in the positive direction. In the original FHL training plan we wanted to measure skill via their demonstration, but in practice we relied more on paper survey instruments because of time constraints.

### **Next Steps in Research**

The perception of need variable, while not represented in this study, would be the outcome variable of an explanatory study in the future. The next steps measuring perceived need and service use will perhaps best be undertaken in circumstances where HIPAA concerns are not paramount as they were in this public setting. For example, in a health system with electronic medical records, data on training, service use, and health outcomes could be tracked after FHL training by a primary care service.

It would be important as a further step in the research to see whether participants follow through with health services and treatment once they recognized a need for such treatment. A combination of bringing the training to the older adults and accessing personal medical information regarding use might also be accomplished, for example, if online sources of FHL were linked to provider websites where use might be monitored. With technological advances, perhaps participants could demonstrate skills in research projects by virtual recognition through online health monitoring. Alternatively, the relationships established in rural congregate meal sites between older adults and staff might lend themselves to appropriate discussion, within consented boundaries, of perceived need and use of services.

Another implication for future FHL research is to further clarify and operationalize FHL skills measurement. Standardization and use of study tools and use of tools specific to hands-on skills will make it possible to test the strength of various approaches to training. Consequently, delivery of health promotion tailored to rural populations could be evaluated. We believe a direct measurement of demonstrated skills will be the best approach. It has been suggested that existing standardized tools have limited utility in some situations (Osborn et al., 2007). For example, we considered use of a standard HL measure and then realized it measured gross changes in health language abilities and was very unlikely to be sensitive to the changes we were exploring after a 20 minute training session. We accept the value of standardized tools and wonder whether a combination might be most desirable. Development of standardized FHL measurement based on skill demonstration would be ideal. With standardized tools, contrasts between urban and rural settings could be explored.

The older adults in the study represent a varied group in terms of rural location, from retirement, tourist, and farming communities. These were in large part independent older adults with mobility and the resources to attend community events, and 49% reported education past high school. Groups not captured in the current study were homebound older adults and those with minority statuses. A next step in research would be to attract more diversity. If written materials and videos in appropriate languages were distributed to homebound older adults, minority older adults, and others in their homes, FHL training would be more accessible.

Offering the workshops in a variety of locations would also increase participation and diversity. Congregate meal sites can be stigmatized and viewed by some as a place for low-income meals and where “less independent” older adults visit. Expanding educational settings to private homes, conference centers, places of worship, extension centers, and out-patient clinics would offer more venues. As computer use by rural older adults increases, many venues could become health information stations and research opportunities.

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