Abstract

Background
Health literacy is defined in the U.S. Department of Health and Human Services initiative Healthy People 2010 as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.” It is estimated that 48.8 million Americans are functionally illiterate, making health literacy a major obstacle for providing health care. Although communicating with physicians is a small component of the tasks that are incorporated in a definition of health literacy, it remains the most important aspect of this concept contributing to personal health.

Methods
Primary care clinics within the Sioux Falls area were provided with both English and Spanish patient education brochures on communicating with physicians. A survey was then distributed to determine how low health literacy was affecting physician practices and what they were doing to remove the obstacles that health literacy presented. Physicians were asked to evaluate the multiple skills and competencies required by patients to access health care services and resources they use to assist patients.

Results
A total of 77 surveys were distributed. Twenty-two (28.6 percent) were returned. Of the physicians who returned the survey, the majority (77 percent) thought that low health literacy is a moderate obstacle in their practices. Several physicians stated that their offices had at least one method in place to assist those with low health literacy, but none of them were using a formal test of health literacy. Only six physicians could name a community resource to assist patients with low health literacy.

Conclusion
Low health literacy is an unavoidable barrier to effective patient care for physicians across the country. If the full spectrum definition of health literacy is understood by physicians and carefully considered in the context of their own practices, it is likely they would come to the realization that health literacy is a greater obstacle to providing health care than they previously considered. In order to communicate more effectively and better serve our patients, we need to resist stereotyping patients when estimating (e.g., over estimating or under estimating) their health literacy. We also need to identify educational resources and methods of communication that will ease the burden of health illiteracy. With nearly half of patients having low health literacy nationwide, it is essential to understand health literacy and acknowledge this problem in all of our practices.
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imply – the ability to understand medical jargon. Rather, it encompasses all of the tasks necessary to most effectively receive health care. The spectrum of health literacy includes the ability to make an appointment, read a calendar to record the date and time, read a bus schedule or road map to get to the clinic or hospital, navigate within the clinic or hospital, understand the physician’s diagnostic impression and instructions and follow a treatment regimen. A 2004 report published by the Institute of Medicine estimated that 90 million Americans, nearly half of the U.S. adult population, had low health literacy or were functionally health illiterate. Although communicating with physicians is only one component of the tasks that are incorporated in the definition of health literacy, it remains the most important aspect of this concept with regard to contributing to one’s personal health.

In order to assess the health literacy in a population of South Dakota patients and physician understanding of relevant issues in this regard, a three-part study was conducted. The first part of this study tested the health literacy level of patients in both rural and urban primary care clinics in eastern South Dakota. This study was completed in 2008 through the collaboration of the University of South Dakota Undergraduate Honors Program, the Sanford School of Medicine Department of Family Medicine and Rush-Net, the Rushmore practice-based research network in South Dakota. The patients were evaluated with two validated tools that measure health literacy – the short form of the test of functional health literacy in adults (S-TOFHLA) and the Newest Vital Sign (NVS). Results suggested that South Dakota’s patients follow national trends, with approximately one-third of patients at each participating clinic demonstrating marginal or limited health literacy on at least one test. Improving health literacy, as well as improving communication in health care settings, is very important to the future of health care in South Dakota and nationwide. Part two of the study consisted of distributing patient education brochures to the clinics to help educate patients about methods to effectively communicate with their physicians. Part three of the study, reported in this paper, was a survey of local physicians to understand what they knew about health literacy and how well they thought their patients understood physician instructions.

The purpose of the final part of this study was twofold: to determine how low health literacy was affecting physicians’ practices, and to educate physicians about health literacy and how it can affect patient-physician communication, which can greatly impact health care.

Methods
Participants for this study were Sioux Falls area physician members of the South Dakota State Medical Association. This was a convenience sample; however, an effort was made to include primary care physicians from different clinic locations, hospital affiliations, clinic size and with patients of variable demographics. Physicians chosen for participation were practicing full scope family medicine (with the exception of some who were not practicing obstetrics) or general internal medicine. In the fall of 2009, these physicians’ clinics were provided with patient education brochures. The brochures where printed in both English and Spanish and attempted to educate patients about methods to effectively communicate with their physicians. Approximately one year later, a survey was created by the authors as a follow-up to the distribution of the brochures. The survey had been submitted to the University of South Dakota Institutional Review Board (IRB) and determined to be exempt via the procedures of the IRB. Physicians were asked to evaluate the multiple skills and competencies required by their patients to access health care services. The ultimate goal was to assist the physicians in future interactions with patients to ensure they could accurately estimate their patients’ health literacy levels. A total of 77 physicians were mailed the survey along with a cover letter explaining that participation was voluntary and including participants’ rights as outlined according to the University of South Dakota IRB and Office for Human Subjects Protection. Survey responses were anonymous; therefore, the physicians and their clinics were not correlated with their answers to the survey questions.

The survey was comprised of 10 questions of various types. There were questions requiring responses using a five-point Likert scale, questions requiring free-text answers and multiple-choice questions allowing respondents to select single or multiple items that applied. The survey was considered to have face validity and the sample of physicians sufficiently representative of the target population to be valid given the research question. As surveys were returned, the data was entered into a computer by the first author.

Results
Of the 77 surveys distributed in a single mailing, 22 were completed and returned for a response rate of 28.6 percent.

The first question addressed the extent to which low health literacy was perceived as an obstacle to the physician’s practice. Almost one-third (32 percent) of physicians who responded considered low health literacy to be a major obstacle.
The second question asked physicians to estimate the health literacy level of their patients. The majority of physicians (77 percent) who responded considered their patients as having moderate health literacy, but none of the respondents were formally testing the health literacy level of their patients.

The third query was a free-text question asking physicians to estimate the percentage of their patients who had difficulty understanding instructions provided by them. Responses varied widely, ranging from 10 to 80 percent.

The fourth question asked physicians what their practices were currently doing to assist patients with inadequate health literacy. All but one practice had implemented at least one method to assist patients. The methods chosen are displayed in Figure 1.

The fifth question was again a free-text question asking physicians to whom they referred patients with health literacy issues in order to provide patients with further assistance. The responses are displayed in Figure 2.

The sixth question determined physicians’ awareness of community resources available to assist patients with low health literacy. Of the 22 respondents, only six could identify a community resource. These six physicians said they would suggest that patients utilize the multicultural center, Sioux Falls Literacy Council, a local library, English classes, nurse educators and/or Internet resources.

The seventh question asked physicians if they thought their staff would benefit from training on how to effectively communicate with patients who have low health literacy. Seventy-seven percent of respondents said that they believe such training would be beneficial.

The eighth question asked physicians how they identify patients who have difficulty reading and if they use any readability or health literacy measurement tools. The majority of those responding (56 percent) indicated familiarity with the tools, but none used them. Many physicians also stated that they can identify those who have difficulty reading by observing the patient during an office visit.

The ninth question inquired about specific methods physicians used to communicate with patients. Several options were provided, as well as an option to fill in a method not listed. Respondents could select all that applied. Of the 51 responses to the question (due to respondents choosing

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**Figure 1. What is your practice currently doing to assist patients with inadequate health literacy?**

- Screening for low health literacy with a published measurement tool: 34%
- Discussing health literacy with patients: 21%
- Attempting communication methods that aim to improve patient understanding: 36%
- Providing verbal and written instructions: 8%
- Checking that education materials provided for patients are at an acceptable reading level: 2%
- None: 4%

**Figure 2. Where do you go for assistance if you need further information for patients who display health literacy issues?**

- I don’t know/Left Blank: 39%
- Nurse Case Manager: 30%
- Interpreters: 13%
- Social Worker: 9%
- Clinical Manager: 4%
- Online Resources (AAFP, Adam QuickeSheets): 4%

Figures do not equal 100 percent due to rounding.
realization that health literacy is a greater obstacle to providing health care than they had previously considered. One out of five said that they have used the “Teach Back” method with their patients. None of the physicians had taught their patients to use the “Ask Me 3” method. Only 15 percent of physicians said that they provided educational materials written at an eighth-grade reading level or lower, and 5 percent stated that they did not have any methods for communicating with these patients.

The 10th and final question on the survey asked physicians how they would like to assist patients with low health literacy if resources and time were not limitations. Most of the respondents left this question blank, but some suggested that another team member could repeat the physicians’ instructions at a slower pace or the physicians could have longer appointments in order to spend more time with the patients.

Discussion

It was not until the mid-1980s that health researchers proposed low health literacy as a major contributing factor to problems in the health care system. Now that health care professionals have begun to understand the meaning of health literacy, the diagnosis of low health literacy is used to explain or at least contribute to many more health concerns and disparities than in the past. Just as in Healthy People 2010, there are again objectives for health communication and health information technology that focus on improving the health literacy of Americans in the Healthy People 2020 initiative. The first objective is to “increase the proportion of persons who report their health care provider always gave them easy-to-understand instructions about what to do to take care of their illness or health condition.” The second objective aims to “increase the proportion of persons who report that their health care providers have satisfactory communication skills.” In a 2007 survey, only 60 percent of people reported that instructions were explained such that they could understand them. The target for 2020 is to improve this by 10 percent of people surveyed.

If the full spectrum definition of health literacy is understood by physicians and carefully considered in the context of their own practices, it is likely they would come to the realization that health literacy is a greater obstacle to providing health care than they had previously considered. On several of the surveys in the present study, there seemed to be a disconnect between the first question (extent to which low health literacy is a barrier to practice) and the third question (estimated percent of patients with low health literacy), although correlative analyses were not completed. If a physician estimates that low health literacy has little effect on his or her practice in question one, then one would expect that the same physician would estimate that a very small percentage of patients have difficulty understanding instructions (question three), and vice versa. This was not the case for many respondents. For example, one physician in response to question one indicated that health literacy was a major obstacle (five on a scale of one to five). In question three, however, the same respondent indicated that only 20 percent of his or her patients had difficulty understanding instructions. There was lack of congruity, as demonstrated in this example, in several of the surveys. If misunderstanding is an issue for patients, then low health literacy is likely having a negative impact on patient well-being.

Although the majority of physicians stated that their practices had one or more methods in place to assist patients with low health literacy, the question remains as to how effective these methods are at improving patient understanding. If both verbal and written instructions are provided, but the patient mishears the verbal instructions and written instructions are illegible, then these methods will be unsuccessful. If education materials are at an acceptable reading level, but not provided to the patient or the patient doesn’t read them, this method will be unsuccessful. If communication methods are not used properly, they too will be unsuccessful at improving health literacy of patients.

Several methods for improving communication with low health literacy patients have been developed, but they are underutilized by physicians in practice. The “Ask Me 3” method encourages patients to always ask three specific questions at the end of a health care encounter to help achieve effective communication. The questions are: 1) What is my main problem? 2) What do I need to do? and 3) Why is it important for me to do this? Another way to improve communication is for providers to use the “Teach Back” method. This method involves the physician asking the patient to repeat the instructions for treatment and/or follow-up. Asking the patient to summarize the instructions allows the physician to determine if the instructions were interpreted correctly and to clarify the instructions before complications occur. Simple changes in communication like these could have a significant impact on our care of patients.
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Many physicians mentioned using the American Academy of Family Physicians (AAFP) website as a source of further information when health literacy issues are identified. In September 2004, a study in *Family Medicine* reported evaluations of the reading level of the patient education materials distributed by the AAFP. The study revealed that approximately 75 percent of the 518 health topics for which educational materials are available on the Internet are written at the ninth- or 10th-grade levels, as determined by the SMOG calculator. For example, one important link for patients, “Tips for Talking with your Doctor,” on the AAFP’s website is written at a 9.6-grade level, which is too difficult for most readers. Although the AAFP has taken some steps to improve the readability of their website for patient education, such as a link to increase the font size and another link to switch to Spanish, more importantly, the website still needs to lower the reading level in order to reach the majority of patients.

Many physicians stated that they could quickly identify those patients who have a literacy problem by observing them in an office visit. This is a common misconception. A study of physician estimation of patient literacy level showed that physicians frequently overestimate patients’ literacy level, especially that of minority patients. Physicians overestimated literacy level for more than half of African-Americans and more than one-third of other ethnicities.

As explained in the introduction, health literacy and general literacy are not synonymous. An individual who is highly educated may have adequate general literacy while having low health literacy at the same time simply because he or she does not have the skills or understanding required to navigate the health care setting. If we are overestimating general literacy, it is likely we are overestimating health literacy to an even greater degree. Once a patient has successfully completed the health literacy tasks that has brought him or her to the clinic, he or she needs to understand what the physician says in order to improve his or her personal health.

A limitation of this study was a low response rate from the physicians who received the survey. This does affect the validity of the results and questions whether or not the results can be universally applied to clinics throughout South Dakota. Of the physicians who did complete the survey, several left questions blank, which further affects the results of those questions. Future research could focus on a plan to implement better communication and educational methods for low health literacy patients. Patients throughout the country could benefit from the development of a “best practice” plan for both rural and urban clinics faced with the obstacle of low health literacy.

**Conclusion**

Significant research has been done on health literacy, but the responses of physicians to this survey may suggest that physicians are probably unaware of how to address the problem. The more than half of physicians not responding to the final survey question about how to better serve their patients with low health literacy suggests that physicians and medical staff are struggling with low health literacy in their patients and how to address the problem.

In order to communicate more effectively and better serve our patients, we need to resist stereotyping patients when estimating their health literacy. With one-third of patients nationwide having low health literacy, it is essential to understand that more than likely, low health literacy is represented in all of our practices, and this must be acknowledged and addressed if we are going to improve the care these patients receive.

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**REFERENCES**


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