

Health Literacy: Implications for Family Medicine

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As many as 90 million Americans have difficulty understanding and acting on health information. This health literacy epidemic is increasingly recognized as a problem that influences health care quality and cost. Yet many physicians do not recognize the problem or lack the skills and confidence to approach the subject with patients. In this issue of Family Medicine, several articles address health literacy in family medicine. Wallace and Lennon examined the readability of American Academy of Family Physicians patient education materials available via the Internet. They found that three of four handouts were written above the average reading level of American adults. Rosenthal and colleagues surveyed residents and found they lacked the confidence to screen and counsel adults about literacy. They used a Reach Out and Read program with accompanying resident education sessions to provide a practical and effective means for incorporating literacy assessment and counseling into primary care. Chew and colleagues presented an alternative to existing health literacy screening tests by asking three questions to detect inadequate health literacy. Likewise, Shea and colleagues reviewed the prospect of shortening the Rapid Estimate of Adult Literacy in Medicine (REALM), a commonly used health literacy screening tool. Both the Chew and Shea articles highlight the need for improved methods for recognizing literacy problems in the clinical setting. Further research is required to identify effective interventions that will strengthen the skills and coping strategies of both patients and providers and also prevent and limit poor reading and numeracy ability in the next generation.

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After more than a decade of growing evidence about the magnitude and consequences of limited literacy on the health and health care of Americans, the health literacy epidemic is receiving greater attention. The Institute of Medicine (IOM) has just released a report on health literacy, which indicates that nearly half of the adult population in the United States—90 million men and women—may have trouble understanding and acting on health information.¹ Previously, the IOM identified health literacy as one of 20 priority areas in which quality improvement could transform health care in America. The Department of Health and Human

Services (DHHS) added improved health literacy as one of the nation's Healthy People 2010 objectives,² and the Agency for Healthcare Research and Quality (AHRQ) recently released a report that summarized the relationship between literacy and health outcomes—identifying a need for further research to determine if the relationship is truly causal in nature.³

Health literacy, defined 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, is increasingly being recognized as a problem that influences health care quality and cost. Many adults, regardless of education and background, find it difficult to successfully navigate the health care system and understand the information required to successfully manage personal and

family health care. Health care information is often provided in written form and, combined with the complexity of the health care system, can be overwhelming for individuals with limited literacy skills. Limited literacy skills often translate to problems understanding even the simplest written instructions, accurately completing intake forms, or properly dosing medication for patients and their children.

Who has limited literacy skills? The answer is: Americans from all walks of life. According to the 1993 National Adult Literacy Survey (NALS), 21% of the adult population in the United States have inadequate reading and numeracy skills,⁴ and the majority of these individuals with limited skills are white, native-born Americans. NALS data indicate, however, that those who are socioeconomically disadvantaged, belong to racial/eth-

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nic minority groups, are elderly, are immigrants, or live in rural areas of the country are disproportionately affected.⁴ These findings have raised concerns about the capacity of many Americans to access medical information and function in our current health care system and suggest that literacy may be an explanatory factor in many health disparities.

The association between literacy and health provides new insight into the well-documented but poorly understood relationship between education and health, since literacy seems to be a stronger predictor of health than education.⁵ Literacy has been linked to problems with using preventive services, delayed diagnoses, understanding one's medical condition, adherence to medical instructions, and self-management skills.⁶ Although the association between literacy and health outcomes requires further study, recent evidence suggests that limited literacy skills and low health literacy translates to worse outcomes.⁷ In addition, low health literacy has been associated with higher health care costs.⁸

Despite the cumulative evidence on the magnitude and consequences of low literacy and low health literacy, many physicians and medical educators do not recognize the problem or may lack the skills and confidence to approach this issue with patients. While national physician organizations and federal health agencies are becoming more aware of health literacy, they are just beginning to address it. At present, no quality standards exist for designing patient education materials or physician training in health literacy.

Responding to Health Literacy

Many important questions about how to best address the health literacy epidemic remain unanswered. In this issue of *Family Medicine*, the authors of several articles move us forward by responding to some of these important questions.

Wallace and Lennon⁹ examined the readability of current American Academy of Family Physicians (AAFP) English-language patient education materials available via the Internet. Family physicians and their patients are increasingly turning to the AAFP Web site for information on specific patient problems and for accompanying education handouts for patients. Information from this Web site could greatly enhance both physician and patient education at the moment each is most receptive to learning. It would also encourage physicians to use the patient handout as a teaching tool, highlighting key points related to the topic of the medical encounter, and would likely be more effective and meaningful for patients than the more passive approach of simply having materials available in the waiting room.

Wallace and Lennon, however, found that 75% of the AAFP patient education handouts were written above the average reading level (eighth–ninth grade) of American adults. Their findings suggest that despite increasing awareness of health literacy and the AAFP's intention to help physicians deliver accurate and timely information, the materials currently available are still not useful for most patients.

Wallace and Lennon are correct in calling for AAFP and individual family physicians to provide leadership in improving patient education, which would include writing materials at lower reading levels. It is important to recognize, however, that simplifying written health information alone, while necessary, is not sufficient as a means to improve patient understanding and subsequent behavior. Other communication modalities are also needed, and organizations like the AAFP could take the lead in identifying best practices for education with patients with low literacy skills and developing quality standards for written materials.

Strategies for Change

Training is needed to give family physicians the skills and confidence needed to assess and counsel patients and families around literacy issues within the time allotted for routine office visits—for both adults and children.¹⁰ With such training, however, interventions can be successful. Reach Out and Read (ROR), the clinic-based pediatric literacy program, has been shown to increase the likelihood of parents reading to their young children and to increase the child's expressive and receptive language skills. Both are important factors in a child's learning to read. Research has shown that when children are not "reading-ready" when they enter kindergarten, they are likely to fall behind their classmates and never catch up. These students are at risk of eventually becoming one of the more than 30% of students who drop out of high school, thus perpetuating the cycle of low literacy.

No prior studies have assessed the efficacy of a resident educational intervention to assess and counsel both children and their parents about literacy. Rosenthal and colleagues, in this issue of *Family Medicine*,¹¹ showed that introducing a ROR program and accompanying resident education sessions (two grand rounds and two noon conferences) significantly improved residents' knowledge and attitudes about adult and pediatric literacy and enhanced their comfort with assessing and counseling around literacy.

It is telling that Rosenthal and colleagues reported that residents felt more comfortable discussing parents' illicit drug use than their literacy. As with other sensitive issues in clinical care, such as family violence and substance abuse, we need to teach residents simple, nonjudgmental ways to assess and counsel patients about their literacy skills. Rosenthal and colleagues taught residents to ask two clinically oriented questions concerning

a patient's understanding of physicians' instructions and reading handouts for childhood immunizations. Asking just those two questions helped residents view literacy assessment as an important part of their practice and showed them how to do it in a practical and timely manner.

A provider education program such as the one described may help physicians better address literacy by limiting their assumptions concerning a patient's literacy level and more appropriately tailor communication and education. It also could increase physicians' confidence and skills in counseling adults about the importance of literacy for themselves and for their children. The intervention presented by Rosenthal and colleagues is thus both practical and potentially far-reaching for incorporating literacy assessment and counseling into standard medical care.

Recognizing the Problem

As physicians become more aware of health literacy, they often want a quick way to identify patients. Currently, there are no formal standardized methods for comprehensively assessing a patient's actual health literacy. Multiple instruments and methods have been developed to provide a proxy of this, including the Rapid Estimate of Adult Literacy in Medicine (REALM)¹² and the Test of Functional Health Literacy in Adults (TOFHLA).¹³ Both of these tools have been widely used but mostly for research purposes. It is not known to what extent health literacy screening is used for clinical purposes. However, the developers of these health literacy tests recommend that clinicians be sensitive to a patient's potential shame of being tested and consider how staff will use the information to tailor clinical care. In fact, they recommend that testing not be used clinically unless physicians are able and

willing to tailor their communication to meet their patients' needs.^{10,14}

Two papers in this issue examine health literacy screening in the clinical setting. In the first, Chew and colleagues¹⁵ present an alternative to existing literacy screening tests by asking three questions that will detect inadequate health literacy. The use of a short set of questions to validly assess literacy is promising. The content of these questions is based on five domains of health literacy previously identified by Baker and colleagues.¹⁶ A sixth domain was included to assess how often a patient used a surrogate reader, a commonly used coping strategy among individuals with limited literacy. While we support a brief and potentially less shameful screening method for literacy, questions and response choices must be simple for both the patient to understand and the clinician to ask. Two of the final three questions included by Chew and colleagues were complex and written at a college level. In addition, individuals with limited literacy may have difficulty responding to Likert scales, which were used in the questions in the study by Chew et al.¹⁴ Findings from the Rosenthal paper suggest that residents—without training—lack confidence in their ability to assess adult literacy. The short question set provided by Chew and colleagues may need to be simplified and integrated into practice through a provider training similar to that described by Rosenthal.

In the second paper, Shea and colleagues¹⁷ also review the prospect of a short literacy screening tool. In attempting to shorten the REALM, they discovered discordance in patient responses by race—a discordance that remained after adjusting for education. While they acknowledge that possible unspecified factors may explain the racial differences found in their analysis, they also postulate that the quality, rather than the level, of edu-

cation may be a factor. The racial bias may be more attributable to system and societal failure to provide equitable educational opportunities across racial/ethnic and income groups. Indeed, the NALS reported racial difference in literacy, with African Americans and Hispanics scoring lower than whites in prose, document, and quantitative skill levels at each of eight education levels.⁴

A Call to Action

The articles in this issue of *Family Medicine* help us recognize the growing need for studies to develop and test strategies to help physicians better recognize and respond to health literacy problems in the clinical setting. Such studies need to focus on practical changes that can be made by providers, patients, and the health care system to improve the comprehension of health information. Efforts need to focus on both treating the health literacy epidemic by strengthening the skills and coping strategies of patients and providers and on preventing and limiting poor reading and numeracy ability in the next generation. The health care system will also need to develop partnerships across disciplines and institutions to better accommodate the 90 million Americans with limited literacy skills who are struggling to manage their health care.

Health literacy research must move beyond describing the problem to designing potential solutions. The instruments currently used are beginning steps that have allowed for the estimation of overall prevalence of limited literacy among various patient populations, increasing the awareness of the problem and advancing further study. Now is the time to develop tailored intervention strategies and refine screening methods for clinical use. Guidelines are also needed that detail quality standards for patient materials and staff training. Such measures will

allow us to more effectively address the epidemic of low health literacy and improve the quality of health and health care for all Americans.

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REFERENCES

1. Institute of Medicine. Health literacy: a prescription to end confusion. Washington, DC: National Academies Press, 2004.
2. US Department of Health and Human Services. Health communication. In: *Healthy People 2010*, second edition. With understanding and improving health and objectives for improving health. (chapter 11). Washington, DC: US Government Printing Office, 2000.
3. Berkman N, Pignone MP, DeWalt D, Sheridan S. Health literacy: impact on health outcomes. Evidence report/technology assessment. Rockville, Md: Agency for Healthcare Research and Quality, 2004, in press.
4. Kirsh I, Jungeblut A, Jenkins L, et al. Adult literacy in America: a first look at the results of the National Adult Literacy Survey. Washington, DC: National Center for Education Statistics, United States Department of Education, 1993.
5. Feldman JJ, Maroc DM, Kleinman JC, Cornoni-Huntley J. National trends in educational differences in mortality. *Am J Epidemiol* 1989;129:919-33.
6. Gazmararian JA, Williams MW, Baker DW, Peel J. Health literacy and patient knowledge of chronic disease. *Patient Educ Counsel* 2003;51:267-75.
7. Schillinger D, Grumbach K, Piette J, et al. Association of health literacy with diabetes outcomes. *JAMA* 2002;288:475-82.
8. Weiss BD, Palmer R. Relationship between health care costs and very low literacy skills in a medically needy and indigent Medicaid population. *J Am Board Fam Pract* 2004; 17:44-7.
9. Wallace L, Lennon ES. American Academy of Family Physicians patient education materials: can patients read them? *Fam Med* 2004;36(8):571-4.
10. Wolf MS, Davis TC, Cross JT, Tomori C, Green KM, Bennett CL. Health literacy and patient knowledge in a Southern HIV clinic. *Int J STD AIDS*, 2004, in press.
11. Rosenthal MS, Werner MJ, Dubin NH. The effect of a literacy training program on family medicine residents. *Fam Med* 2004;36(8):582-7.
12. Davis TC, Long SW, Jackson RH, et al. Rapid Estimate of Adult Literacy in Medicine: a shortened screening instrument. *Fam Med* 1993;25(6):391-5.
13. Parker RM, Baker DW, Williams MV, Nurss JR. The test of functional health literacy in adults: a new instrument for measuring patients' literacy skills. *J Gen Intern Med* 1995; 10:537-41.
14. Davis TC, Williams MV, Marin E, Parker RM, Glass J. Health literacy and cancer communication. *CA Cancer J Clin* 2002; 52:134-49.
15. Chew LD, Bradley KA, Boyko EJ. Brief questions to identify patients with inadequate health literacy. *Fam Med* 2004;36(8):588-94.
16. Baker DW, Parker RM, Williams MV, et al. The health care experience of patients with low literacy. *Arch Fam Med* 1996;5:329-34.
17. Shea JA, Beers BB, McDonald VJ, Quistberg A, Ravenell KL, Asch DA. Assessing health literacy in African Americans and Caucasian adults: disparities in Rapid Estimate of Adult Literacy in Medicine (REALM) scores. *Fam Med* 2004;36(8):575-81.