



Patient health literacy and the practice of evidence-based medicine

Caroline J Kistin

10.1136/ebmed-2012-100712

Correspondence to:

Caroline J Kistin,
Department of General
Pediatrics, Boston University
School of Medicine/Boston
Medical Center,
88 East Newton St, Vose 3,
Boston, MA 02118, USA;
caroline.kistin@bmc.org

The effective practice of evidence-based medicine requires the application of 'current best evidence' to individual patient care.¹ While there is consensus that it is critical to include patients' individual preferences in medical decision-making,¹⁻⁴ the best way to involve patients in the process is unclear. Patient preferences may be dictated by specific circumstances, such as age, as well as by past experiences and cultural values. Increasingly, evidence shows that both health outcomes and patient decision-making are strongly associated with health literacy,⁵⁻¹² which is not routinely assessed during clinical encounters.

Health literacy is defined by the Institute of Medicine 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.'⁵ Problems with health literacy are common, and the Institute of Medicine estimates that more than 90 million adults in the USA have difficulties reading, interpreting or managing health-related information.⁵

Low health literacy is associated with poor health outcomes, even when findings are adjusted for potential confounders such as age, sex, income, education and ethnicity. Children of parents with low health literacy are less likely to have a medical home,^{6,7} and if they have asthma, are more likely to have moderate to severe symptoms and miss school more than children whose parents have adequate health literacy.^{7,8} A systematic review of the effect of health literacy on health outcomes in adult patients found that low health literacy is associated with increased hospitalisation, lower receipt of recommended preventive services such as flu shots, and greater difficulty with appropriate medication use.⁹ A recent study in the *British Medical Journal* identified an association between low health literacy and increased mortality in the older people.¹⁰

Health literacy is also associated with the decisions patients make about their care and the degree to which they engage in shared decision-making. Parents with low health literacy are less likely to report that they feel like a partner in making medical decisions for their child compared with parents with high health literacy.¹¹ Health literacy has been found to influence end-of-life medical decision-making, with patients with high levels of health literacy preferring comfort care and patients with low health literacy preferring aggressive interventions.¹² This difference was not associated with religious background or race, as had previously been hypothesised, and was noted to disappear after patients viewed an educational video, suggesting that disparities in health literacy can be overcome.¹²

If health literacy is not considered or addressed during a clinical encounter, the application of evidence-based principles to individual patient care may be significantly limited, even in cases such as flu shots where the evidence surrounding supporting a proposed intervention is strong and the risk of harm is low. In situations where decision-making is more complex, the potential

limitations posed by low patient health literacy may be even greater. In 2010, in an effort to address the challenges posed by low health literacy, the US Department of Health and Human Services issued a National Action Plan to Improve Health Literacy.^{13,14} The Department of Health and Human Services and the Institute of Medicine propose taking action on health literacy in the areas of individual patient care, health systems, educational systems and community systems.^{5,13,14}

Addressing health literacy and engaging in evidence-based practice in the context of individual patient care does not mean that clinicians should formally test the health literacy of their patients. In fact, many of the validated measures that assess health literacy are lengthy and better suited to research than to clinical practice. Clinicians should, however, be aware of both the high prevalence of low health literacy and its negative effect on patient care and should consider whether low or limited health literacy may be impacting a patient's actions or decisions. To provide optimal care, clinicians must identify and interpret relevant clinical evidence, determine whether the evidence applies to their patient, provide a clear description of the risk, benefit, impact or uncertainty of a course of action, and assess their patient's understanding as well as their specific circumstances.¹⁵ This is no small task, and to be effective, providers will require additional time, as well as training and support. At a minimum, health-care providers need to be aware of both the prevalence of low health literacy and its negative effect on patient care. Importantly, low health literacy should not be confused with patient values or preference.

When designing patient materials, health professionals should assume a high prevalence of low health literacy in the patient population and health systems reforms should focus on identifying and removing literacy-related barriers to care. Interventions may include simplifying complex documents, ensuring that all patient materials are free of medical jargon and written at basic literacy levels, developing alternative patient tools, such as videos or interactive computer modules, and using patient navigators to assist patients with chronic complex medical conditions. For patients, health literacy skills should be included in the general education curriculum and offered in continuing education programmes.^{5,13,14} Finally, more investigation is needed to identify additional interventions that can overcome low health literacy in clinical practice, improve provider communication skills, and decrease this significant barrier to quality healthcare.

Competing interests None.

References

1. Sackett DL, Rosenberg WM, Gray JA, *et al.* Evidence based medicine: what it is and what it isn't. *BMJ* 1996;312:71-2.
2. Evidence-Based Medicine. A new approach to teaching the practice of medicine. *JAMA* 1992;268:2420-5.

3. Guyatt GH, Busse J. The Philosophy of Evidence-Based Medicine. In: Montori VM, eds. *Contemporary Endocrinology: Evidence-Based Endocrinology*. Totowa, New Jersey: Humana Press 2006:25–33.
4. McAlister FA, Straus SE, Guyatt GH, *et al*. Users' guides to the medical literature: XX. Integrating research evidence with the care of the individual patient. Evidence-Based Medicine Working Group. *JAMA* 2000;283:2829–36.
5. Institute of Medicine Committee on Health Literacy. *Health Literacy: A Prescription to End Confusion*. Washington D.C.: The National Academies Press 2004.
6. Sanders LM, Thompson VT, Wilkinson JD. Caregiver health literacy and the use of child health services. *Pediatrics* 2007;119:e86–92.
7. DeWalt DA, Hink A. Health literacy and child health outcomes: a systematic review of the literature. *Pediatrics* 2009; 124 Suppl 3:S265–74.
8. DeWalt DA, Dilling MH, Rosenthal MS, *et al*. Low parental literacy is associated with worse asthma care measures in children. *Ambul Pediatr* 2007;7:25–31.
9. Berkman ND, Sheridan SL, Donahue KE, *et al*. Health Literacy Interventions and Outcomes: An Updated Systematic Review. Evidence Report/Technology Assessment No. 199. Rockville, Maryland: Agency for Healthcare Research and Quality, 2011.
10. Bostock S, Steptoe A. Association between low functional health literacy and mortality in older adults: longitudinal cohort study. *BMJ* 2012;344:e1602.
11. Yin HS, Dreyer BP, Vivar KL, *et al*. Perceived barriers to care and attitudes towards shared decision-making among low socioeconomic status parents: role of health literacy. *Acad Pediatr* 2012;12:117–24.
12. Volandes AE, Paasche-Orlow M, Gillick MR, *et al*. Health literacy not race predicts end-of-life care preferences. *J Palliat Med* 2008;11:754–62.
13. US Department of Health and Human Services Office of Disease Prevention and Health Promotion. Washington DC: National Action Plan to Improve Health Literacy, 2010.
14. Koh HK, Berwick DM, Clancy CM, *et al*. New federal policy initiatives to boost health literacy can help the nation move beyond the cycle of costly 'crisis care'. *Health Aff (Millwood)* 2012;31:434–43.
15. Weiner SJ. From research evidence to context: the challenge of individualizing care. *ACP J Club* 2004;141:A11–12.