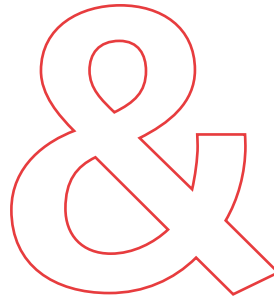


Important Success Factors in Patients With Type 2 Diabetes

HEALTH LITERACY

The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions.¹



HEALTH NUMERACY

The degree to which individuals have the capacity to access, process, interpret, communicate, and act on numerical, quantitative, graphical, biostatistical, and probabilistic health information needed to make effective health decisions.²

The Components of Health Literacy Are Similar to Those of Literacy in the Broad Sense¹



Types of Skills Needed for Health Decisions¹

- ✓ Promote and protect health and prevent disease
- ✓ Understand, interpret, and analyze health information
- ✓ Apply health information over a variety of life events and situations
- ✓ Navigate the healthcare system
- ✓ Actively participate in encounters with healthcare professionals and workers
- ✓ Understand and give consent
- ✓ Understand and advocate for rights



Poor health literacy is a stronger predictor of a person's health than income, employment status, education level, and racial or ethnic group.³

43 MILLION

Adult Americans possess low literacy skills

Health Literacy in Patients With Type 2 Diabetes

- Inadequate health literacy/numeracy is a major challenge in patients with type 2 diabetes⁵
- Diabetes self-management requires both knowledge of what to do and the ability to follow pharmacologic and lifestyle regimens⁵
- To successfully self-manage type 2 diabetes, patients must know how to monitor the disease, manage symptoms, carry out daily medical regimens, and interpret results of home-monitoring⁵

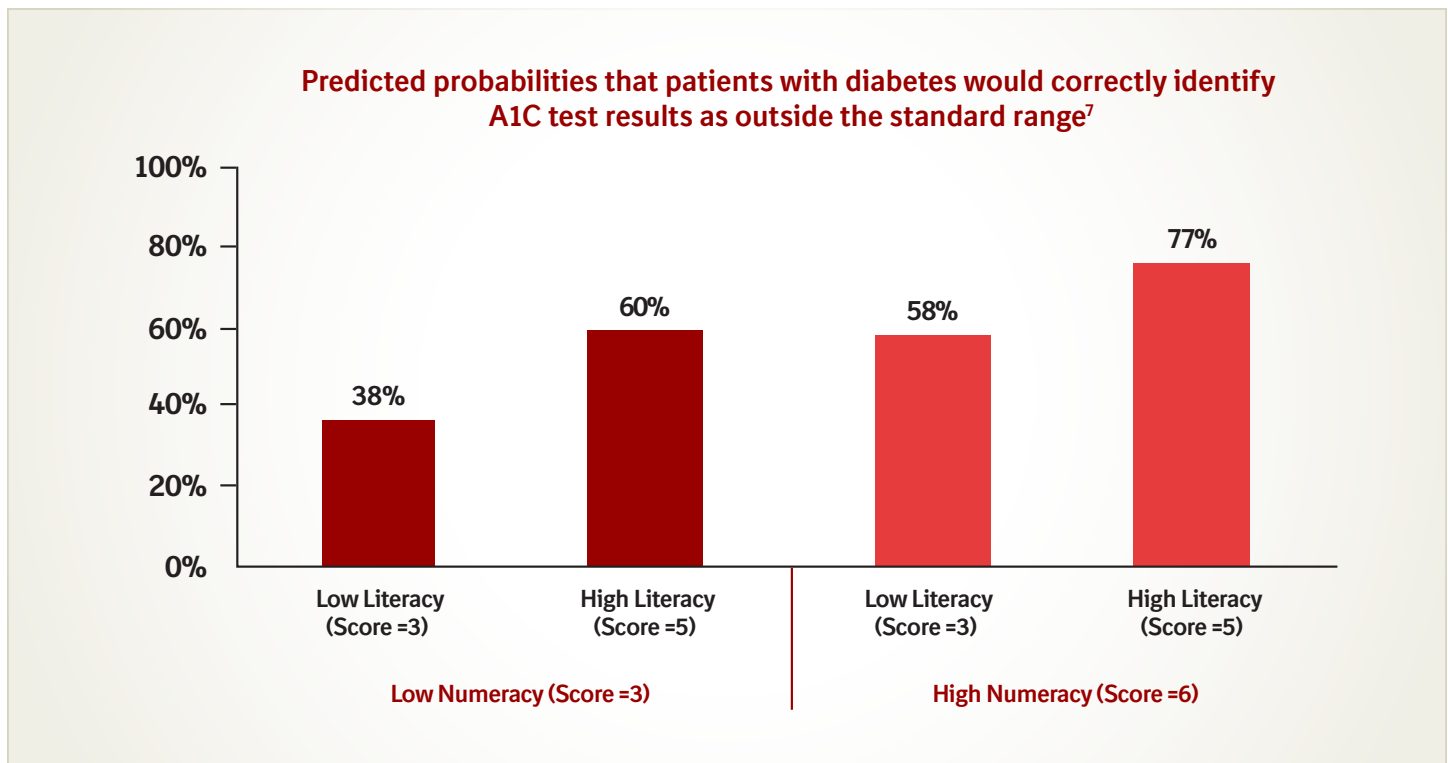


Limited health literacy is common among vulnerable populations including racial and ethnic minorities, the poor, elderly persons, and patients with chronic conditions, including type 2 diabetes.^{5,6}

Conceptual Framework of Factors Affecting Health Literacy in Type 2 Diabetes⁵



Numeracy and Literacy Independently Predict the Ability of Patients With Diabetes to Identify Out-of-Range Test Results⁷



- Internet-administered survey of 1817 adults aged 40–70 years (approximately 50% with diabetes)
- Participants were asked to imagine that they had type 2 diabetes
- A1C results were randomized to be slightly (7.1%) or moderately (8.4%) outside the reference range
- Other test results were randomized to be within or outside their reference ranges
- Numeracy was measured using the Subjective Numeracy Scale (SNS)
- Health literacy was based on the mean response to 3 questions and ranged from 1 (least literate) to 5 (most literate)



Regarding contacting their doctor, less numerate and literate participants with diabetes appear insensitive to the A1C level shown, whereas highly numerate and literate participants with diabetes appear very sensitive.⁷

Strategies to Improve Health Literacy and Numeracy in Patients With Type 2 Diabetes¹⁰

✓ Use plain language

- Replace medical jargon and technical terms with words people use every day in conversation with each other
- Present print information in a user-friendly way by organizing material into units in the order needed to understand subsequent information

✓ Avoid phrases/words that can have 2 interpretations

- Words like “could” or “might” may be difficult to understand. Explain to patients what these phrases/words mean

✓ Write out acronyms and other new terms

✓ Avoid using common words in unusual ways

- Negative test results may sound bad, while positive test results may sound good to a patient. Explain exactly what is meant by negative/positive test results

✓ Be culturally sensitive

- Recognize the difference in meaning that words may have between different racial and ethnic groups and between generations

✓ Ask open-ended questions

- “Some people have problems remembering to take their medicine. If this happens, what will you do?”

✓ Use the Teach-Back Method—ask patients to explain or demonstrate what they just learned

- “Please tell me in your own words what we have discussed today”



Pictograms, or standardized graphic images, are useful for conveying important information to patients with low health literacy.⁵

For Additional Information:

- Centers for Disease Control and Prevention. <http://www.cdc.gov/healthliteracy/>
- National Institutes of Health. <http://www.nih.gov/institutes-nih/nih-office-director/office-communications-public-liaison/clear-communication/health-literacy>
- U.S. Department of Health & Human Services. <https://health.gov/our-work/health-literacy>

References

1. Committee on Health Literacy. *Health Literacy: A Prescription to End Confusion*. Nielsen-Bohlman L, Panzer AM, Kindig DA, et al, eds. Washington, DC: National Academies Press; 2004.
2. Golbeck AL, Ahlers-Schmidt CR, Paschal AM, Dismuke SE. A definition and operational framework for health numeracy. *Am J Prev Med*. 2005;29:375-376.
3. Weiss BD. Health literacy and patient safety: help patients understand. 2nd ed. Chicago, IL: AMA Foundation; April 2009.
4. Adult Literacy in the United States. Data Point. NCSE 2019-179. U.S Department of Education.
5. Moss TR. The impact of health literacy on clinical outcomes for adults with type 2 diabetes mellitus. *Adv Diabet Metab*. 2014;2:10-19.
6. Rothman RL, DeWalt DA, Malone R, et al. Influence of patient literacy on the effectiveness of a primary care-based diabetes disease management program. *JAMA*. 2004;292:1711-1716.
7. Zikmund-Fisher BJ, Exe NL, Witteman HO. Numeracy and literacy independently predict patients' ability to identify out-of-range test results. *J Med Internet Res*. 2014;16:e187. Doi:10.2196/jmir.3241.
8. Weiss BD, Mays MZ, Martz W, et al. Quick assessment of literacy in primary care: the newest vital sign. *Ann Fam Med*. 2005;3:514-522.
9. Miser WF, Jeppesen KM, Wallace LS. Clinical utility of a brief screen for health literacy and numeracy among adults with diabetes mellitus. *Fam Med*. 2013;45:417-423.
10. Osborn CY, Cavanaugh K, Kripalani S. Strategies to address low health literacy and numeracy in diabetes. *Clin Diabetes*. 2010;28:171-175.