

COMPLIMENTARY LIVE WEBINAR

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Health Literacy: Practical Interprofessional Strategies for Enhancing Health Equity

PRESENTED BY

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Brenda Hage, PhD, DNP, CRNP, CCM, faculty for this event, has no relevant financial relationship(s) with ineligible companies to disclose.

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Learning Objectives

1. Describe the link between health literacy and positive health outcomes.
2. Differentiate the subtypes of literacy.
3. Implement health literacy tools for future use in daily practice.
4. Formulate strategies to better communicate principles of health literacy in diverse healthcare settings.

Poll





Health and Older Adults

A Changing Demographic

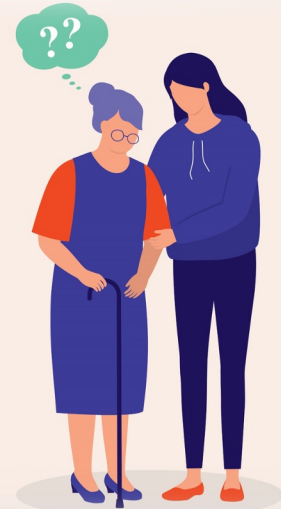
- According to data from the U.S. Census Bureau, the number of Americans ages 65 and older is **projected to nearly double** from 52 million in 2018 to 95 million by 2060
- The 65-and-older age group's share of the total population will rise from 16 percent to 23 percent



Chronic Disease

According to data by the CDC:

- Approximately 85% of older adults have at least one chronic health condition
- 60% have at least two chronic conditions



Chronic Disease

- Recent data indicates that older adults are more likely to be taking multiple prescription medications
- Older adults report taking four or more prescription drugs:
 - 54% of adults 65 and older
 - 32% of adults 50-64 years old
 - 13% of adults 30-49
 - 7% of adults aged 18-29

Chronic Disease

90% of the nation's \$4.1 trillion in annual health care expenditures are for people with chronic and mental health conditions





Health and Literacy

The Patient vs. the Health Care System

Literacy

- *Literacy*: the ability to read, comprehend and apply written information
- Subtypes of literacy:
 - **Document literacy**
 - **Prose literacy**
 - **Numeric literacy**
 - **Computational literacy**



Literacy in the US

- The National Adult Literacy Survey (NALS) represents the largest household-based literacy assessment to be conducted in the US¹
- The survey found that between 40 to 44 million adults in this country have **significantly limited reading skills**, making them unable to read a food label or unable to complete an application form
- Approximately 130 million adults in the US have low literacy skills: 54% of Americans between the ages of 16 and 74, read below the equivalent of a sixth-grade level²

1. <https://nces.ed.gov/naal/>

2. <https://www.apmresearchlab.org/10x-adult-literacy>



What is *Health* Literacy and Numeracy?

- Health literacy has been defined as the ability of individuals to **obtain, process, and understand** basic information and services needed to make appropriate health decisions¹
- Health numeracy is described as a person's ability to understand **clinical and public health data**²



1. Health Resources & Services Administration. <https://www.hrsa.gov/about/organization/bureaus/ohe/health-literacy/index.html#:~:text=Health%20literacy%20is%20the%20degree,Minority%20populations>
2. <https://www.cdc.gov/healthliteracy/researchevaluate/numeracy.html>

Health Literacy and Numeracy

- **Health literacy** encompasses many of the tasks needed to maintain health and wellness:¹
 - Making appointments
 - Completing health information and insurance forms
 - Reading medication labels
 - Following treatment instructions
- **Health numeracy** is assessed using actual medication prescription labels and hospital forms and tests an individual's ability to:²
 - Understand directions for taking medications
 - Keep appointments
 - How to obtain financial assistance



1. Health Resources & Services Administration. <https://www.hrsa.gov/about/organization/bureaus/ohe/health-literacy/index.html#:~:text=Health%20literacy%20is%20the%20degree,Minority%20populations>

2. 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.

Managing Chronic Illness

- Individuals with chronic illnesses often have complex medical treatment regimens requiring them to learn large amounts of medical information¹
- Chronic illness and low levels of health literacy affect health outcomes for many individuals, particularly older adults and racial/ethnic minorities²



1. Sevick MA, et. al. *J Gen Intern Med.* 2007;22 Suppl 3(Suppl 3):438-444. doi:10.1007/s11606-007-0316-z
2. Jacobs RJ, et. al. *J Multidiscip Healthc.* 2017;10:167-177. Published 2017 Apr 20. doi:10.2147/JMDH.S135370

Decision Making and Self-Care Tasks

- Disparities exist between a patient's **reading and comprehension abilities** and the ability **find and use information** for decision making and self-care tasks
- There is a **mismatch** between documented literacy skills of the public and health system-level demands as expressed in a multitude of formats:
 - Print
 - In oral exchanges
 - Online
 - In the physical environment



Unrealistic Demands on Patients' Literacy Skills

*"We cannot logically attribute poor reading to poor health. Well over 1,000 articles also attest to the high demand of health materials in print and on websites. Clearly, our argument must be based on the **mismatch between the literacy-related demands of health information and care systems and the literacy skills of the population.** This mismatch is unnecessary, as is the well-documented morbidity and mortality that results. We must consider how we can align demands and expectations with well measured skills." Rima E. Rudd, 2010*

Decision Making & Self-Care Tasks



The mismatch between the literacy-related demands of health care and the literacy skills of the population has made it difficult for individuals to take on a greater responsibility for their own health and can further serve to worsen health disparities



Adapted from <https://www.hsph.harvard.edu/healthliteracy/overview/>

Stigma of Low Literacy

- Shame and stigma are frequently associated with the problem of illiteracy
- Persons with illiteracy often try to hide their reading difficulties
- They may even avoid seeking health care to avoid embarrassment due to literacy challenges



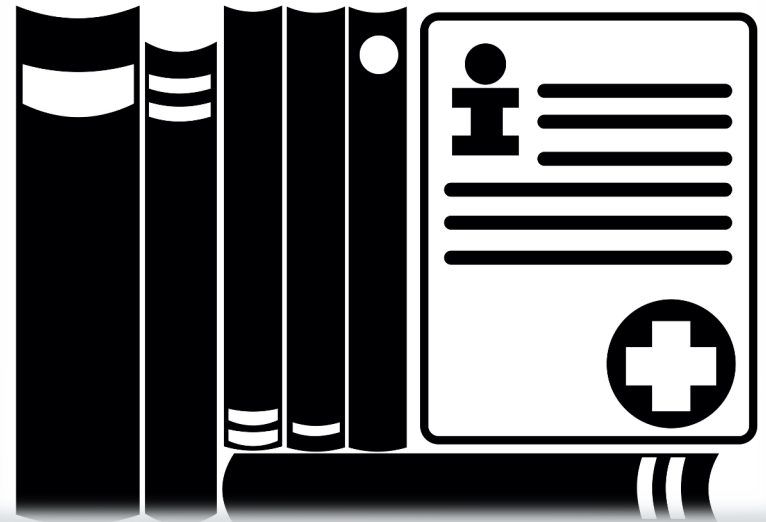
Stigma of Low Literacy

- In a study conducted with patients having low functional literacy:
 - 19% of subjects had never disclosed their reading difficulties to anyone
 - 67.4% had never told a spouse
 - 53.4% had never revealed this information to their children
- 40% of those with low functional literacy felt shame about their reading problems



Health Literacy's Impact

The inability to perform these tasks due to low health literacy can worsen disparities related to access to health information and services.



Institute of Medicine (US) Roundtable on Health Literacy. Innovations in Health Literacy Research: Workshop Summary. Washington (DC): National Academies Press (US); 2011. 3, The Role of Health Literacy in Health Disparities Research. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK209674/>



Negative Outcomes of Low Health Literacy

- Medication errors
- Poorer health outcomes
- Poorer self-rated health
- Missed appointments
- Less preventive care
- Lack of informed consent
- Inability to understand insurance forms
- Inability to access needed resources
- Inefficient use of resources
- Increased hospital admissions

Institute of Medicine (US) Committee on Health Literacy; Nielsen-Bohlman L, Panzer AM, Kindig DA, editors. Health Literacy: A Prescription to End Confusion. Washington (DC): National Academies Press (US); 2004. 6, Health Systems. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK216031/>



The Scope of the Problem

Risk, Cost, and Experiences



Scope of the Problem

Approximately 90 million people - **close to half** of all adults in the US - have low health literacy

Scope of the Problem

This means that many individuals in the U.S. have difficulty performing simple tasks needed to manage their health:

- Reading a thermometer to check for fever
- Reading a bus schedule to get to a health care appointment
- Understanding and carrying out medication directions
- Carrying out treatment instructions



Risk Factors for Low Health Literacy

Factors to consider for people with low health literacy:

- Low levels of education
- Older age
- Living in rural areas
- Belonging to a racial or ethnic minority group
- Recently immigrated to US
- Low levels of income
- Incarceration



Risk Factors for Low Health Literacy

- Higher levels of educational attainment is not a guarantee against low health literacy¹
- **Highly educated people may also have poor health literacy skills²**
- It is possible for individuals with higher educational status to have low health literacy due to a lack of familiarity with medical jargon and accurate appraisal of health information¹



1. Greenberg, D. "A Critical Look at Health Literacy." ADULT BASIC EDUCATION 11, no. 2 (Summer 2001): 67-79.

2. Jansen, T. et al. The role of health literacy in explaining the association between educational attainment and the use of out-of-hours primary care services in chronically ill people: a survey study. BMC Health Serv Res 18, 394 (2018).

Risk Factors for Low Health Literacy

A study of 93 affluent residents from a geriatric retirement community (mean age ~70 years) found that

- 30% of residents were unable to adequately understand written health information provided, measured by the Test of Functional Health Literacy in Adults (TOFHLA)¹
- The subgroup, which demonstrated poor comprehension, had a mean of 13 years of formal education (mean age ~85 years)²



1. Parker, R.M., Baker, D.W., Williams, M.V. *et al.* The test of functional health literacy in adults. *J Gen Intern Med* **10**, 537–541 (1995).
2. Gausman Benson J, Forman WB. Comprehension of written health care information in an affluent geriatric retirement community: use of the Test of Functional Health Literacy. *Gerontology*. 2002;48(2):93-97.

Cost of Low Health Literacy

- Data from the Center for Health Care Strategies (CHCS) indicates that low health literacy costs the US economy approximately **\$236 billion annually**
- These costs are due to medical errors, loss of wages due to illness, and disability and compromised public health



Cost of Low Health Literacy

- Individuals with inadequate health literacy tended to under use outpatient services and overuse inpatient services
- This leads to use of an inefficient mix of health care services and higher health care costs



Howard DH, et. al. The impact of low health literacy on the medical costs of Medicare managed care enrollees [published correction appears in *Am J Med.* 2005 Aug;118(8):933]. *Am J Med.* 2005;118(4):371-377.

Chronic Disease and Low Health Literacy: Expectations of Patients

To contain health care costs for those with chronic illness and regardless of health literacy level, the health care system expects individuals to

- Assume a greater role in maintaining their health and wellness
- Seek out information and make well-informed health decisions





Personal Experiences with Low Health Literacy

Reproduced with permission from the National Academy of Sciences, Courtesy of the National Academies Press, Washington, D.C.
Video, "Health Literacy: A Prescription to End Confusion." <https://www.youtube.com/watch?v=iCvQyRhpI4Q>



Health Information

Readability and Retention

Health Information

- Much of the health information given to patients is written at higher levels than the average reading ability of the general population¹
- In a Rand study of the language level of online health information available on health Web sites
 - 100% of the English language websites were found to be written at a **ninth-grade level** or higher
 - Six of seven Spanish language websites offered information at a **high school level** or above²



1. Nicholas McInnes & Bo J. A. Haglund (2011) Readability of online health information: implications for health literacy, *Informatics for Health and Social Care*, 36:4, 173-189
2. Lorence DP, Greenberg L. The zeitgeist of online health search. Implications for a consumer-centric health system. *J Gen Intern Med*. 2006;21(2):134-139.

Retaining Health Information

- 40-80% of medical information provided by healthcare practitioners is forgotten **immediately**
- The greater the amount of information presented, the lower the proportion **correctly recalled**
- **Almost half** of the information that is remembered is incorrect

Kessels RP. Patients' memory for medical information. *J R Soc Med.* 2003;96(5):219-222.



Retaining Health Information

Possible reasons why patients forget health information:

1. Factors related to the clinician, such as use of difficult medical **terminology**
2. The mode of **communication**, i.e., spoken versus written
3. Factors related to the patient, such as **low education** or lack of understanding of specific expectations by the health care system, staff, insurance, and others

Kessels RP. Patients' memory for medical information. *J R Soc Med.* 2003;96(5):219-222.





Solutions

Strategies and Screening Tools

Barriers to Screening: Practitioners' Comfort

- Many health professionals are uncomfortable asking patients about literacy
- In a survey, medical residents were questioned about their **comfort level** in asking patients about their literacy abilities
- Residents reported that they were more at ease **asking about illicit drug use** than literacy





Health Literacy Research: New Directions for Health Professionals *and* Policy

“Overall, studies linking literacy and health outcomes should include variables from both sides of the coin: the **literacy skills** of individuals as well as the **communication skills** of the professionals; the communication skills of professionals as well as the **policy-related** constraints/facilitators set by the institutions within which they practice.”

Rima E. Rudd, 2015

Strategies to Address Low Health Literacy

- Screening:
 - AHRQ Health Literacy Universal Precautions Toolkit¹ “can help primary care practices reduce the complexity of health care, increase patient understanding of health information, and enhance support for patients of all health literacy levels”
- Teaching:
 - Health professionals need to learn to identify and screen individuals at risk for low health literacy²
 - Practitioners need to use effective, clear communication strategies

1. Brega AG, et. al. AHRQ Health Literacy Universal Precautions Toolkit, Second Edition. AHRQ Publication No. 15-0023-EF) Rockville, MD. Agency for Healthcare Research and Quality. January 2015

2. Wolf MS, Wilson EA, Rapp DN, et al. Literacy and learning in health care. Pediatrics. 2009;124 Suppl 3(0 3):S275-S281.

Screening Tools

- REALM (Rapid Assessment of Adult Literacy in Medicine)
 - 66-item word pronunciation test requiring patients to correctly read and pronounce medical words
 - Takes 2-3 minutes to administer and score
- The REALM has been validated by multiple studies
 - Some have shown discordance in results between Caucasians and African Americans
 - It does not assess numeric literacy



Screening Tools

- TOFHLA (Test of Functional Health Literacy in Adults)
 - Focuses on identifying functional health literacy
 - Evaluates both reading comprehension and numeracy
 - Reading and comprehension are evaluated by a 50-item test using the modified Cloze Procedure, where every fifth or seventh word is omitted, and the reader must select the correct choice to fill in the missing information
 - A Spanish version was also developed (TOFHLA-S)
- Short form TOFHLA (S-TOFHLA)
 - Reading and comprehension are evaluated through a 36-item assessment which takes about seven minutes to administer
 - The TOFHLA and the S-TOFHLA score levels of health literacy as adequate, inadequate, and marginal



Screening Tools

- Three questions from the S-TOFHLA are highly associated with inadequate health literacy:
 1. How often do you have someone help you read hospital materials?
 2. How confident are you filling out medical forms by yourself?
 3. How often do you have problems learning about your medical conditions because of difficulty understanding written information?
- These questions may be helpful as a quick preliminary screening for low health literacy
- More extensive testing could follow if needed



The Reading Level of Health Education Materials

- SMOG (Simplified Measure of Gobbledygook) is an assessment tool that measures the reading level

$$\text{Grade} = 1.0430 \sqrt{\text{number of polysyllables}} \times \frac{30}{\text{number of sentences}} + 3.1291$$

- Free Online SMOG Calculator: <https://readabilityformulas.com/free-readability-formula-tests.php>

Supplemental Activity

Test out the SMOG calculator:

- Go to the SMOG Calculator: <https://readabilityformulas.com/free-readability-formula-tests.php>
- Paste a 2-3 paragraph sample from a healthcare organization website or informational handout into the tool
- Assess the SMOG score

Answer the following questions:

1. What reading level did the SMOG rate it at?
2. What barriers might the current text create for patients?
3. Do you have any suggestions to enhance readability for a broader audience?
4. How will this new knowledge shape your work in health care settings moving forward?

Tips for Written Health Education Materials

Simplify health education materials by using:

- Fewer polysyllabic words
- Active voice, including culturally-sensitive content
- Illustrations, pictures, and pictographs
- Non-medical terms and pictures
- Limit non-essential information (nice to know vs. need to know)
- Allow for white space in documents
- Bulleted text



Other Strategies

- Incorporate the “show me” or “teach back” approach to validate patients’ understanding of the material presented
- If a patient understands, they can accurately "teach back" the information to the practitioner
- Encourage patients with low health literacy to bring a significant other, friend, or family member with them to health care appointments



Ask Me 3[®]

- Partnership for Clear Health Communication, a consortium of many health professional organizations developed in conjunction with Pfizer Pharmaceuticals
- Teaches consumers and health care professionals how to communicate more clearly by framing health care conversations using three key questions:
 1. What is my main problem?
 2. What do I need to do?
 3. Why is it important for me to do this?

Poll



Putting It Into Practice

- An aging population, chronic disease, unrealistic expectations of patients, and low health literacy stigma add up to be a tremendous burden on the US health care system and economy
- As practitioners:
 - Understand the impact and recognize the negative effect of these elements
 - Develop the awareness, knowledge, and skills required to help patients make informed decisions about their health care needs
- Create and use simple tools to help meet the needs of your clients/patients:
 - Develop patient **education materials** at reading levels appropriate for a variety of individuals
 - Incorporate **screening tools** to identify patients with low health literacy, include the “teach back” or “show me” methods
 - Teach patients to use the **Ask Me 3[®]** method
 - Encourage patients to **bring a friend**, family member, or caregiver to the visit
 - **Continually update** office practices and procedures to ensure patient understanding



With a concerted effort, clinicians and health consumers can help **remove barriers** for those with low health literacy and **improve health outcomes overall!**

Additional Resources for Health Care Professionals

- Agency for Healthcare Research and Quality (AHRQ) Universal Precautions Toolkit:
<https://www.ahrq.gov/health-literacy/improve/precautions/index.html>
- Institute for Healthcare Improvement's Ask Me 3[®] Tool:
 - Helpful information about improving health communication
 - Educational materials for patients and health professionals about low health literacy
 - Available at <https://www.ihl.org/resources/Pages/Tools/Ask-Me-3-Good-Questions-for-Your-Good-Health.aspx>

Questions?

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PRESENTED BY

Liz Friedrich

MPH, RD, CSG, LDN, FAND, NWCC

September 22, 2022
2-3 pm ET



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