Assessing and Addressing Health Literacy

Sandy Cornett, PhD, RN

Abstract

The ability to communicate effectively with patients who have low health literacy depends on our ability to recognize this problem and to create a patient-centered and shame-free healthcare environment. Because of the shame and embarrassment these patients experience, they often use their well-developed coping skills to mask their limited literacy. Although a number of reading- and comprehension-assessment tools are available, there is debate whether or not these tools should be used clinically. This article provides guidance in regard to establishing an environment that promotes health literacy, assessing health literacy levels, utilizing strategies to increase health literacy, evaluating the learning that has occurred, and incorporating health literacy concepts into the nursing curriculum.


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Keywords: assessing health literacy, evaluating learning, health literacy enhancement, healthcare system navigation, guidelines for plain language materials, low health literacy cues, measuring low health literacy, Newest Vital Sign (NVS), oral communication, plain language, printed communication, photonovela, Rapid Estimate of Adult Literacy in Medicine (REALM), teach back, Test of Functional Health Literacy in Adults (TOFHLA), visuals in low health literacy materials

Although healthcare professionals generally assume that the health explanations and instructions given to patients and families are readily understood, in reality these instructions are frequently misunderstood, sometimes resulting in serious errors. A common reason for misunderstanding health instructions may be the patient's low health literacy skills. Unfortunately patients with limited health literacy are often considered noncompliant (Baker et al., 1996), when the real problem is a low level of health literacy.

The National Institute for Literacy (NIFL) (1991), views literacy broadly as including more than an individual’s ability to read. The NIFL has defined literacy as “an individual’s ability to read, write, and speak in English, compute, and solve problems, at levels of proficiency necessary to function on the job, in the family of the individual, and in society.” Healthy People 2010 (United States Department of Health and Human Services, 2000) also adopted a broad definition of literacy, similar to the NIFL definition of general literacy in defining health literacy 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."

Dalton (2006) has described one low literacy patient as reporting the following experience:

I had some papers, but I didn’t know they were prescriptions and I walked around for a week without my medication. I was ashamed to go back to the doctor, but a woman saw the papers I had and told me they were prescriptions. It’s bad to not know how to read. After getting my medicine I had to come back and ask how to take them because I was urinating too much. They told me I was taking double the medication I was supposed to. I had two bottles and I was taking one from each bottle, but it turned out they were the same medication. But since I don’t know how to read, I didn’t know.

This patient’s experience, unfortunately, is not uncommon. To hear the stories of other patients who have low health literacy as to what it is often like to communicate with health professionals, view the on-line program, Health Literacy and Patient Safety: Help Patients Understand, produced by the American Medical Association Foundation (2007).

The purpose of this article is to explore the most effective ways to assess and address low health literacy so as to develop the ability to clearly and effectively communicate health information to those who struggle with this problem. In this article I will provide guidance in regard to establishing an environment that promotes health
literacy, assessing health literacy levels, utilizing strategies to increase health literacy, evaluating the learning that has occurred, and incorporating health literacy concepts into the nursing curriculum.

Establishing an Environment that Promotes Health Literacy

It is important to remember that even people with good literacy skills find that understanding healthcare information is a challenge. They often don’t understand medical vocabulary and the basic concepts in health and medicine, such as how the body works or how to navigate the healthcare system (Wolf, Gazmararian, & Baker, 2007; Wolf, Gazmararian, & Baker, 2005). Stress and anxiety limit their ability to listen, learn, and remember. Creating an environment that promotes health literacy requires helping patients navigate the healthcare system; preparing them to interact productively with their healthcare provider; and providing a respectful and caring environment (Porche, 2000; Weiss, 2007). Each of these necessary activities will be discussed below.

Preparing the Patient to Navigate the Healthcare System

Filling out registration forms, health histories, and consent forms are particularly difficult for those with low health literacy skills. Forms can even be a problem for those with good literacy skills. Hence making simple changes in forms and registration procedures will benefit all patients. Weiss (2007) and Rudd and Anderson (2006) have recommended the following practices to keep the registration and/or admission processes from becoming overwhelming to patients.

- Offer all patients help in completing forms. Provide this help in a confidential manner, preferably in an area where they cannot be overheard by others. People are reluctant to discuss personal matters, such as health problems and finances, in front of others.
- Simplify all forms using clear language, non-medical terms when possible, and easy-to-read formats. Ask only for necessary information at registration or during admission to a facility. Additional information can be provided at a later time.

Referrals for tests, consults with other providers, treatments, or procedures can be a problem for persons with low health literacy. Often the patient is told to read the referral form and call to make an appointment. The patient in this situation has to find out where to go, follow instructions given to prepare for the referral, determine if insurance will pay for the service, and complete a new registration form or additional paperwork. All this can be an overwhelming task for anyone, but especially for those with low health literacy skills. The referral process can be made easier by helping patients in the following ways (Mayer & Villaire, 2007; Weiss, 2007):

- Make written instructions clear and simple, using language that is easy to read and understand.
- Review the instructions with patients and check to be sure they understand the information. If procedures require preparation, ask patients to tell you in their own words what preparation is required.
- Place directions to the referral site and/or a map on the back of the referral form and review the directions with them.
- Help patients with insurance issues.
- Call for an appointment for the patient before they leave the facility

Preparing the Patient to Interact Productively with Healthcare Providers

Helping patients prepare for the appointment is essential if they are to become an active partner in their care. The American Medical Association Foundation (2007) encourages providers to tell the patient what activities to expect when entering the healthcare system, asking patients to:

- Report new or different symptoms and anything that doesn’t seem quite right.
- Bring in a list of all their medications and the actual medication bottles for a review (prescription, herbals, vitamins, minerals, and other over the counter drugs).
- Provide copies of recent test results or reports they may have from other healthcare providers and personal health records if they have them.
- Make a list of 2-3 questions they wish to ask.
- Ask a family member or friend to come with them to help write down information and remember what was said.
- Clarify what the doctor told them before they leave.

Preparing a Respectful and Supportive Environment

Patients with low literacy skills are often ashamed of this problem and rarely tell anyone (Baker et al., 1996; Parikh, Parker & Nurses, 1996). Even patients with good literacy skills may feel intimidated and avoid asking questions; this behavior may be misinterpreted to mean that they understand the instructions when really they do not understand them.

One way to help patients feel respected and supported is to call them by their title and last name unless they request that you use their first name. Remember that nonverbal behaviors convey important messages. For example, if the receptionist or nurse is trying to check in a patient while on the phone or doing other paper work at the same time, the message received is that the patient’s presence is not important. Patients from other cultures often misinterpret nonverbal gestures, such as the thumbs up or an OK sign made with the thumb and first finger, and consider them to be offensive. Providers are encouraged to pay attention to the patient, use a warm, friendly tone, and smile to let them know that are welcomed. Asking patients if they need any help will go a
Assessing Health Literacy

Knowing whether your patient has low health literacy skills is very important. This knowledge enables you to match your verbal instructions and the readability level of materials to the health literacy skills of your patient. It may also suggest the benefits of using non-printed teaching materials, such as videotapes, audiotapes, demonstrations, models, pictograms, and other visuals. It is also always important to remember that a patient’s poor communication skills may not indicate a lack of intelligence, but rather a lack of these skills. People with low literacy skills often have the ability to develop these skills; but have not had the opportunity to do so. The following discussion will focus on clinical concerns regarding health literacy, concerns regarding health literacy testing, the Newest Vital Sign, clues that help identify patients with low health literacy, and assessment questions to identify low health literacy skills.

Clinical Concerns Regarding Health Literacy

A patient’s literacy level is a concern in healthcare settings because some patients are not aware that they have low literacy skills; they often overestimate their own abilities. In one study of low-literate patients, 75% had never told their spouse, 53% never told their children, and one in five never told anyone about their reading problem (Parikh et al., 1996). Kirsch, Jungeblut, Jenkins, and Kolstad (2005) reported that two-thirds to three-fourths of those reading at the lowest reading level, i.e. a below basic level, which is a 5th grade level or below, report that they read “well” or “very well.” Patients who read at the lower levels often arrange their lives in such a way that they read what they can while compensating for their problem with a number of coping strategies. Also of concern is the finding that clinicians routinely overestimate the ability of patients to understand medical information. This occurs even after they spent time with patients who did not understand what they were told (Bass, Wilson, Griffith, & Barnett, 2002; Kelly & Haident, 2007).

Concerns Regarding Testing for Health Literacy

The trend to test patients’ literacy skills began about the time The Joint Commission (TJC) added guidelines to their patient and family education standards to the effect that literacy levels need to be taken into account when teaching. It is important to note that TJC standards do not require testing. The development of specific tests for literacy in healthcare settings may have supported the trend to formally test patient literacy. A reading skills test measures a person’s ability to decode words. Decoding is an essential step in reading that requires transforming letters into words and pronouncing the words correctly. These tests are effective for use in research purposes when a person gives informed consent to be tested, but are often not appropriate for use in a general clinical setting. They are not very user friendly in the clinical setting. People with low literacy skills, who already feel stigmatized and fear exposure of their inability to read, may elect to go elsewhere for their medical services if a literacy test becomes part of the routine care. Furthermore, unless healthcare providers are trained to communicate effectively with these patients and to select appropriate and easy-to-read materials, knowing a person’s literacy level does not improve care. However, recently there has been some focus on developing screening tools that can be used in the clinical setting. One such tool, the Newest Vital Sign (NVS), is described below. Yet other researchers are continuing work to develop an assessment tool that will provide clinicians with an easy way to get the information they need about their patients’ literacy levels. Table 1 describes tests that measure recognition, pronunciation and/or comprehension.

There is fair evidence to suggest that possible harm outweighs any current benefits of literacy testing (Paasche-Orlow & Wolf, 2007). Patients may be harmed by testing in the form of shame and alienation. Osborne (2005) has shared insights from Archie Willard, an adult learner, who first learned to read when he was 54. Mr. Willard has given us a sense of what testing means to those with low literacy skills by explaining:

As a dyslexic and an adult learner with reading problems, I speak for many other adult learners. We hate having to take written literacy tests. People with other kinds of handicaps are not continually asked to expose their weaknesses to whatever degree they are handicapped. There is no physical pain in taking a written test, but when we have to take a written test there is a lot of frustration inside each of us. We grew up feeling humiliated because we had poor literacy skills and now we are adults. Written tests are seen as another step backward for us and it turns us away.

The Newest Test of Health Literacy: The Newest Vital Sign

The Newest Vital Sign (NVS) is a quick and accurate bilingual (English and Spanish) screening test for general literacy, numeracy, and comprehension skills applied to health information, designed to be used in primary care settings. (Osborne et al., 2007; Weiss et al., 2005). This test takes about three minutes to administer and consists of an ice cream container nutrition label. Patients read the label while the provider asks six questions about how they would act on the information. A scoring sheet, with the correct answers is used to record the responses. Patients with fewer than four correct answers suggest the possibility of low health literacy. The Newest Vital Sign package is available at no cost and can be downloaded or ordered at the Pfizer Clear Health Communication Initiative website (Pfizer, 2008).
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Clues Indicating Low Health Literacy Skills

Most people with low literacy skills are masters at concealing their deficit and are often quite articulate in speaking, so it is difficult to realize that a problem exists. However, observing closely and asking the right questions will provide 'red flags' that a problem exists with reading and comprehending information. There are a number of characteristics and behaviors that patients with low health literacy exhibit:

- Patients often make excuses when asked to read or fill out forms. Examples include: “I don’t have my glasses,” “I’m too tired to read,” and “I’ll read this when I get home.”
- Poor readers often lift text closer to their eyes, or point to the text with a finger while reading. Many times their eyes wander over the page without finding a central focus.
- Patients may provide an incomplete medical history or check items as “no” to avoid follow-up questions.
- Poor readers often miss appointments and/or make errors regarding their medication.
- Patients with low health literacy become skilled at listening and they often take instructions literally to avoid mistakes. To identify their medications they look at the pills for color, size, and shape, since they can’t read the labels.
- Patients often show signs of nervousness, confusion, frustration, and even indifference. They may withdraw or avoid situations where complex learning is required.
- Patients often give incorrect answers when questioned about what they have read.

Watching for these indicators of low health literacy can pay large dividends in terms of improving healthcare for these patients.

Assessment Questions to Identify Low Health Literacy Skills

Asking a patient how far they went in school is not always a good indicator of reading ability. Most people who can’t read have been through the 10th grade, because young people must attend school until they can legally drop out, usually at age 16. Most research shows a two to five year gap between grade level achieved and reading skills (Kutner, Greenberg, Jin, & Paulsen, 2006). Asking the following targeted questions can help identify low health literacy:

- Medical terms are complicated and many people find the words difficult to understand. Do you ever get help from others in filling out forms, reading prescription labels, insurance forms, and/or health education sheets?
- A lot of people have trouble reading and remembering health information because it is difficult. Is this ever a problem for you?
- How happy are you with the way you read?
- How much time do you spend reading each day? What do you like to read? (Newspapers are 10th grade reading level and news magazines are at the 12th grade level).
- When you have to learn something new or unfamiliar, how do you prefer to learn the information? Do you like to learn by watching TV, listening to the radio, talking with people, trying it yourself, or reading?

Another way to assess for low health literacy is to ask patients to read their prescription bottles and then explain how to take their medication. Chew, Bradley, & Boyko, (2004) found three questions to be an effective screening tool for those with below basic health literacy skills (5th grade level or less), but not as effective for identifying patients with higher levels of health literacy skills.

1. How often do you have somebody 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 condition because of difficulty understanding written information?

Wallace et al. (2006) evaluated the three questions from the Chew et al. (2004) study and concluded that combinations of multiple questions were no more effective in identifying those with low health literacy than one single question. They reported that the question “How confident are you filling out medical forms by yourself?” was the most accurate of the three questions.

A Single Item Literacy Screener (SILS) (Morris, MacLean, Chew, & Littenberg, 2006) was found to have good sensitivity when compared to other validated tools, for identifying patients with low health literacy. This item asked “How often do you need to have someone help you when you read instructions, pamphlets, or other written material from you doctor or pharmacist?” Responses ranged from “1” (never) to “5” (always). The cut-off point of “2” captured all patients potentially in need of assistance.

Utilizing Strategies to Increase Health Literacy

Effective communication strategies will both serve patients with low health literacy and also benefit more literate patients. This section will discuss oral and printed communication as well as a newer type of printed material, the photonovela, which is gaining popularity as an effective way to communicate with patients having low health literacy skills.

To increase retention, speak slowly and limit...advice..., focusing the content of the message on a patient's actions or behaviors that will result in the desired health outcome...
Oral Communication

Patients with low health literacy often have problems understanding information given verbally during the patient-provider encounter (Schillinger, Bindman, Wang, Stewart, & Piette, 2004). Research has shown that patients only understand and retain about half of what the provider tells them, and that they do not feel comfortable asking providers to repeat or clarify information (Schillinger et al., 2003). To increase retention, speak slowly and limit the amount of advice given to patients, focusing the content of the message on a patient’s actions or behaviors that will result in the desired health outcome, rather than on detailed facts. It also helps to organize the information logically, focusing on the three to five most important ‘need to know’ points. Logical organization starts with the easiest parts of a message first, then builds on this foundation; it breaks down complex instructions into small units of information to help the patient grasp and understand the information. In this way, patients will feel a sense of success in mastering the information. It is also recommended that instructions be specific, concrete, and vivid, rather than general in nature. People with low health literacy have difficulty with abstract words or general principles and they often don’t know what they need to do if instructions are given in general terms (Doak, Doak, & Root, 1996). For example, if a patient is told to take medicine twice daily, but not the specific times, the patient may not know when to take it, and decide to take two tablets at the same time so as not to forget the second dose of the day.

Reinforcing information is key for retention. Stop after giving each key point to solicit questions and have patients repeat the material back to you. This technique is called ‘chunk and check.’ It makes learning more interesting and helps patients to remember the information better.

Another effective method to improve retention and check for understanding is the ‘teach-back’ technique. To use this method, ask your patients to repeat the information they just heard using their own words. One study found that 83.5% of patients retained the information when asked to restate it compared to 60.8% of those not engaged in teach-back (Bertakis, 1977). This form of interactive communication to assess comprehension was associated with better glycemic control for patients with diabetes (Schillinger et al., 2003). A report on Making Health Care Safer from the Agency for Health Research and Quality (2001), stated that “Asking patients to recall and restate what they have been told is one of the top eleven patient safety practices based on scientific evidence.”

Printed Communication

Verbal instruction should be reinforced with printed instructional materials that are easy-to-read and visual materials, including models and illustrations. These tools do not replace the personal interaction; they can only help facilitate the interactive process between you and the learner, an essential element of teaching. Guidelines for both written and visual materials will be presented below, along with the principles of Clear Health Communication. User-friendly and easy-to-read materials provide repetition and help rephrase the information for better understanding.

There is a significant gap between patients’ reading and comprehension levels and the reading difficulty of educational materials (Baker et al., 1996; Kutner et al., 2006). Most patient education materials are written above the 8th grade level, with the average level falling between 10th and 12th grades (Estev, Musseau, & Keehn, 1994). Standard informed consent documents often require high school- and college-level reading comprehension (Paasche-Orlow, Taylor, & Brancati, 2003). Many patients, regardless of literacy level, prefer simple, easy-to-read materials written in plain language especially when they are ill (Andrus & Roth, 2002; Mayeaux et al., 1996).

All patients can benefit from seeing pictures, but those most likely to benefit are the patients with low literacy skills. Houts, Doak, Doak, & Loscalzo (2006) believe that providers should: (a) determine how pictures can be used to support key points, (b) ensure that pictures are concrete rather than complex, (c) remove unnecessary details to avoid distractions, and (d) closely link the pictures to simple language print. Pre-testing visual materials with focus groups helps determine if they are easily understood, correctly interpreted, and/or culturally appropriate.

Studies (Campbell, Goldman, Boccia, & Skinner, 2004; Doak et al., 1996; Dowse, n.d.; Houts et al., 2005; Katz, 2006; Osborne, 2006) have shown that the use of pictures in health information improves learner comprehension, especially when information about spatial relationships is presented. In a study on the impact of illustrations on
public understanding of cancer screening, the addition of illustrations to written information resulted in a significant (27%) improvement in understanding (Brotherstone, Miles, Robb, Atkin, & Wardle, 2006).

Table 3 lists available guidelines describing how to develop health information materials to ensure that they are user-friendly, easy-to-read, and understandable to a wide audience. One of the most widely used guidelines, Pfizer Principles for Clear Health Communication, includes five elements (Pfizer, 2007):

1. **Explain the purpose of the document:** Define the purpose and benefits from the patients’ viewpoints.
2. **Involve the learner:** Focus on the desired patient behaviors and describe useful and realistic actions for the learner to take.
3. **Make the material easy to read:** Use common words and active voice as if talking to someone; use headings/subheadings to draw attention to the key messages.
4. **Make the material LOOK easy to read:** Include a lot of white space, use sharp contrast with 12 point font, and cue to direct attention to key points.
5. **Select visuals that clarify the material and motivate the learner:** Use realistic visuals, graphics appropriate to the learner, and captions that clarify the point of the visual and describe the recommended actions.

### The Photonovela

One type of visual that is increasing in popularity for those with low literacy skills is the photonovela. A photonovela is a health education item that is formatted like a comic book, but contains photographs instead of drawings. It includes easy-to-read text to tell a story and stimulate discussion with patients who struggle with low literacy levels. It is a popular form of entertainment literature in Central and South America (Nimmon, 2007).

Often the learners themselves help write and design the photonovela. This creates an empowering experience resulting in a piece of educational material that reflects a particular group of people in the community. Those from the community who are not involved in the production of the photonovela will identify with the message because it closely reflects their beliefs. The Harvard School of Public Health (n.d.) has comprehensive information and examples of photonovelas posted on their website <www.hsph.harvard.edu/healthliteracy>.

Steps for designing a photonovela include:

#### Step 1: Acquire resources:

- Large sheets of paper for storyboarding, markers and tape, digital camera, computer, Microsoft publisher software or equivalent, and actors

#### Step 2: Develop the content by:

- Choosing the topic, listing points to be covered, and selecting appropriate visuals and text
- Drawing on a large piece of paper a grid with a section for each point.
- Brainstorming ideas for photos and sketching pictures in the grids.
- Adding text ideas to each grid.
- Determining the final version of photos and text.

#### Step 3: Produce the photonovela by:

- Selecting actors who match the ethnicity of the audience, having actors sign the necessary release forms.
- Setting the scene for each photo shoot, considering characters for each shoot, their gestures, expressions, and various clothing items needed.
- Shooting the photos with a digital camera, downloading the photos, and using software to complete the layout.
- Inserting the text into the “bubbles” for the dialogue.
- Completing the final editing.
- Translating into second language if necessary, using a native speaker for the translation.

#### Step 4: Pilot test:

- Arrange a focus group, interview, or survey with a small group of people who are expected to use the material.
- During the pilot testing, assess whether the material attracts and holds attention, is accurately perceived, and/or teaches the facts, principles, and interventions presented. Assess also how the material affects the reader’s attitudes and intents to change behaviors, and how the plans for the photonovela might be improved.

### Evaluating the Learning

In addition to improving retention of information, the ‘teach-back’ method (described above) also demonstrates whether the patient understood the information and provides an opportunity to correct any misunderstandings and reiterate critical information that was not remembered. You can approach ‘teach-back’ by asking:

- ‘Please tell me in your own words what we have discussed.’
- ‘What might you tell your family or a friend about your condition?’

Additional evaluation techniques include:

- Asking specific and relevant open-ended questions to see if patients can apply the information to their situation, noting, for example, “Some people have problems remembering to take their medicine” and asking “If this happens, what will you do?”

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...don’t assume that a person understands just because they don’t ask questions.
Assessing and Addressing Health Literacy

Nurses play a major role in providing leadership that meets the challenge of low health literacy...both at the individual level of care and within our organizations.

Incorporating Health Literacy Concepts into the Nursing Curriculum

Given that low health literacy is a major public health problem of the 21st century, it is imperative that our current and next generation of nurses both learn about the burdens that low health literacy places on individuals, on the healthcare system, and on society as a whole, and recognize how nursing can take a leadership role in decreasing low health literacy.

Most current nursing curricula include the patient education process, but do not specifically speak to low health literacy. When students are asked to define health literacy and low health literacy, their answers usually consider only a person’s inability to read, rather than also considering the patient’s comprehension, numeracy, or ability to act on health information. Health literacy concepts can easily be integrated into segments of the curriculum that include communication and patient education (Novitzky, 2009). Objectives, content outlines, and clinical activities to promote an understanding of health literacy are described in Table 4.

Summary

It is important to begin now to teach future generations of nurses to communicate effectively both orally and in writing with patients who have low health literacy. Teaching students and practicing nurses how to utilize practices that address low health literacy in patients will not only benefit individual patients, but will also help reduce health disparities in the twenty-first century and beyond.

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Dr. Cornett holds BS and MS degrees in nursing and a PhD in Adult Education and Instructional Design. She currently serves as Director of the Area Health Education Center (AHEC) Clear Health Communication Program at the Ohio State University College of Medicine, where she has prepared over 6,000 students and practitioners in the health professions in the area of health literacy and consulted with many organizations that need assistance with health literacy issues. She previously served as Program Manager of Consumer Health Education at The Ohio State University Medical Center, Columbus, Ohio, for over 20 years. During this tenure she implemented a patient education system that included 3,000 titles of patient education materials, written below an 8th grade reading level. For more information on health literacy see The Ohio State University’s AHEC Clear Health Communication Program website at http://medicine.osu.edu/orgs/ahec/CHCP.

References


### Table 1. Tests to Measure a Person’s Ability to Read and Comprehend Health Materials

<table>
<thead>
<tr>
<th>Name of Test</th>
<th>Description</th>
<th>Strength</th>
<th>Weakness</th>
<th>Reference</th>
</tr>
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<tbody>
<tr>
<td>REALM – Rapid Estimate of Adult Literacy in Medicine</td>
<td>Word recognition and pronunciation of health-related terms; 66 words listed in 3 columns from easy to hard words</td>
<td>Valid with standard tool, Wide Range Achievement Test (WRAT) (WRAT-R); given in 3 minutes or less</td>
<td>Does not test for comprehension of the words listed; available only in English; does not test for document or numeracy literacy</td>
<td>Davis et al., 1993 Terry Davis, Ph.D. <a href="mailto:tdavis1@lsuhsc.edu">tdavis1@lsuhsc.edu</a></td>
</tr>
<tr>
<td>REALM-R (Revised)</td>
<td>8-item version of full REALM</td>
<td>Valid with WRAT-R; given in less than 2 minutes</td>
<td>Does not test for comprehension of words</td>
<td>Bass, Wilson, &amp; Griffith, 2003</td>
</tr>
<tr>
<td>Test</td>
<td>Description</td>
<td>Validation</td>
<td>Additional Information</td>
<td>Authors/References</td>
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<tr>
<td>REALM – SF</td>
<td>7-item word recognition test</td>
<td>Validated with</td>
<td>Does not test for comprehension of words listed; available in English only; does not test for document or numeracy literacy</td>
<td>Arozullah et al. 2007</td>
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<tr>
<td>(Short Form)</td>
<td>66-item REALM; given in less than 2 minutes</td>
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<tr>
<td>SAHLSA-50</td>
<td>50-item tool based on the 66-item REALM</td>
<td>Validated tool;</td>
<td>Does not test for comprehension of words listed</td>
<td>Lee, Bender, Ruiz, &amp; Cho, 2006</td>
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<tr>
<td>– Short Assessment of Health</td>
<td>given in 3-5 minutes</td>
<td>given in 3-5 minutes</td>
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<tr>
<td>Literacy for Spanish-Speaking</td>
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<td>Adults</td>
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<td>TOFHLA – Test of Functional</td>
<td>50-item reading comprehension test using modified Cloze technique at 4th,</td>
<td>Tests reading</td>
<td>Both sections take 22 minutes to give</td>
<td>Parker, Baker, Williams, &amp; Nurss, 1995;</td>
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<td>Health Literacy in Adults</td>
<td>10th, and 19th grade reading levels; 17-item numeracy test;</td>
<td>comprehension and</td>
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<td>Nurss, Parker, &amp; Baker, 2001</td>
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<td></td>
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<td>numeracy skills;</td>
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<td>Peppercorn Books &amp; Press</td>
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<td></td>
<td></td>
<td>Instrument of choice when detailed evaluation of health literacy is needed for research; Available in English &amp; Spanish and in large print</td>
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<td>S-TOFHLA (Short form)</td>
<td>36-item reading comprehension at 4th &amp; 10th grade reading levels</td>
<td>Validated with</td>
<td>Takes 12 minutes to give</td>
<td>Baker, Williams, Parker, Gazmararian, &amp;Nurss, 1999</td>
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<td></td>
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<td>full TOFHA</td>
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Table 2. Medical Thesauruses

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<tbody>
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<td>Clear Language &amp; Design - Canada</td>
<td><a href="http://www.eastendliteracy.on.ca/ClearLanguageAndDesign/thesaurus">www.eastendliteracy.on.ca/ClearLanguageAndDesign/thesaurus</a></td>
</tr>
</tbody>
</table>
Table 3. Guidelines for Development of Materials in Plain Language

| The Plain Language Initiative - Executive Secretariat – Canada | http://execsec.od.nih.gov/plainlang/guidelines/index.html |

Table 4. Integrating Health Literacy into the Nursing Curriculum

<table>
<thead>
<tr>
<th>Learning Objectives</th>
<th>Content</th>
<th>Learning/Clinical Activities</th>
</tr>
</thead>
</table>
| Describe the health literacy problem in the US and the mismatch between public reading levels and most health materials. | A. Definition of general literacy and health literacy  
B. 2003 NAAL study results for general and health literacy  
C. Populations at risk  
D. Reasons for low literacy  
E. Reading levels of most health materials |DVD of vignettes of persons with low health literacy with discussion of coping strategies they use. Identify barriers to access, diagnosis, treatment, and self-care. |
| Assess a patient’s ability to read, understand, and act on health information. | A. Characteristics and behaviors of poor readers  
B. Observations to make  
C. Questions to ask for assessment of low health literacy – social history, medication review  
D. Screening tools – NVS, SILS |Administer the NVS and make observations of patients at a clinic; Simulated experience of a poor reader; Develop a list of questions for a listening test. |
<p>| Discuss the gap between adult literacy | A. Studies on the gap between adult literacy |Make observations of literacy- |</p>
<table>
<thead>
<tr>
<th>Impact of low health literacy on knowledge, health outcomes, promoting behaviors, patient adherence, and healthcare costs</th>
<th>Skills and healthcare system demands</th>
<th>Related demands in various healthcare settings and discuss strategies for improving the environment.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Describe the guiding principles to use when communicating and teaching patients</strong></td>
<td>A. Ensure a patient-centered, shame-free environment</td>
<td><strong>Analyze the assessment process used in a variety of health care settings; Use role-play to practice using ‘teach back’ method; Use case studies, video vignettes, or role-play to practice using plain language; Compare &amp; contrast two health-related consumer Internet resources; Use PL criteria to analyze the reading difficulty of patient education print material; Revise a piece of difficult education material; Develop a piece (brochure) of education material using guidelines; Do a SMOG on a piece of education material; Determine methods and materials to use when teaching case study patient with low health literacy.</strong></td>
</tr>
</tbody>
</table>
| **A.** Use Plain Language (PL) for patient teaching | B. Provide easy-to-read and understand information:  
- appearance/appeal  
- organization  
- writing style  
- reading levels – Simple Measure of Gobbledygook (SMOG), FRY Index  
- non-print materials |  |

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