Health Literacy in America: What Pharmacists Need to Know

by Karissa Kim, PharmD; Lisa Donahue; and Shay-la Wilson

Upon successful completion of this activity, the pharmacist should be able to:

1. Describe the national statistics on general literacy and health literacy.
2. Describe the impact of low health literacy on disease outcomes and on health care expenditures.
3. Assess health literacy using reliable methods and assessment tools.
4. Discuss risk factors and common clues suggesting that a patient may have limited health literacy.
5. Formulate interventions to improve care for patients with limited literacy.

Upon successful completion of this activity, the pharmacy technician should be able to:

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2. Describe the impact of low health literacy on disease outcomes and on health care expenditures.
3. Assess health literacy using reliable methods and assessment tools.
4. Discuss risk factors and common clues suggesting that a patient may have limited health literacy.
5. Identify patients who continue to struggle with their prescription therapies and work with a pharmacist to remedy.

Literacy is a critical skill necessary to function in society. Many daily tasks such as reading a nutritional label, understanding a bus schedule, applying for employment, or understanding a lease agreement require reading skills. For any job, literacy skills are also necessary. Congress defined general functional literacy as “an individual’s ability to read, write, and speak English and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one’s goals, and to develop one’s knowledge and potential.” In the health care setting, there is an even greater need to have good literacy skills because the health care environment is so complex. Patients must navigate the complicated health care system, full of appointments, forms, provider referrals, medication regimens and home monitoring, often with minimal or no individual assistance or education. Medical terminology and the health care context are also unfamiliar to many patients and even literate people may find health care information, whether verbal or written, difficult to grasp. The average adult in the United States reads at an 8th grade level, but health care information is mostly written above the 10th grade reading level—a level above what most Americans can read.

To emphasize the specific literacy skills necessary in health care, the term health literacy was coined more than 20 years ago and is defined as “the ability of an individual to obtain, process, and understand basic health information and services needed to make appropriate health decisions and follow instructions for treatment.” Adequate health literacy is essential if patients are required to read and understand patient educational handouts, know how to decipher appointment slips, and follow medical instructions. Research indicates that people have difficulty following and comprehending health information; many U.S. residents have limited health literacy.
The impact of limited health literacy is significant. Many patients with limited health literacy have difficulty navigating the health care system. For example, patients with limited health literacy in one study reported difficulty finding the hospital and locating departments within the hospital because the signs were often indecipherable to them. Moreover, patients with limited health literacy had difficulty completing forms and following medication instructions. Another study showed that patients with limited health literacy cannot read and understand basic written medical directions and numerical information. For example, 26 percent could not describe when a follow-up appointment was scheduled and 59.5 percent could not understand a standard consent form. Patients with limited health literacy often misread dosing instructions and had difficulty comprehending the rights and responsibilities section of Medicaid. Auxiliary labels that are placed on medication bottles to help patients were misinterpreted by patients with limited literacy. For example, patients did not know "what take on an empty stomach" meant.

Limited health literacy also has profound effects on patients’ daily life and self-esteem. Patients with low health literacy feel shame, which often leads them to avoid the health care system to prevent embarrassment. Because of the perceived stigma of low health literacy, patients will try to hide this fact. In one study, many patients with low functional health literacy did not disclose their reading difficulty even to their spouses.

Moreover, there is a direct link between limited health literacy and patient outcomes, mortality and increased health care costs. Consequently, health literacy is a critical part of high-quality health care, according to the Institute of Medicine, and has become a national public health concern. Healthy People 2020 identifies increasing the health literacy skills of Americans as an objective of using health communication and health information technology. The purpose of this article is to review the prevalence and consequences of limited health literacy as well as provide strategies to deal with limited health literacy.

GENERAL LITERACY AND LIMITED HEALTH LITERACY
The Department of Education conducts a national survey to document the literacy levels of Americans about every 10 years. The National Adult Literacy Survey (NALS) was conducted in 1992 to document the general literacy level of Americans and to assess how literacy skills affect daily life. This survey included a random sample of 26,000 Americans, age 16 years and older, intended to be representative of the U.S. population. It evaluated prose, document and quantitative literacy. Prose literacy is the ability to process continuous text like news stories or brochures that one would see in a typical day; document literacy is the ability to read non-continuous text like a table or map; and quantitative literacy is the ability to identify and perform simple computations. Literacy was stratified into five levels, from basic (level 1) to proficient (level 5). Based on the findings of the NALS, it is estimated that approximately 45 million Americans have level 1 literacy skills, while another 50 million have level 2 literacy skills. Although this estimate puts half of Americans at the lowest two levels of literacy skills, people at these literacy levels described themselves as being able to read English "well" or "very well." About 30 percent of the respondents functioned at level 3 literacy, while only 20 percent of respondents functioned at the highest literacy levels (level 4-5).

In the follow-up to the NALS, the 2003 National Assessment of Adult Literacy (NAAL) Survey assessed general literacy and health literacy skills of U.S. adults. Like the NALS, NAAL evaluated prose, document and quantitative literacy of over 19,000 adults age 16 and older. Based on the recommendation of the National Research Council’s Board on Testing and Assessment, people were placed into one of four literacy levels rather than five: below basic, basic, intermediate, or proficient. The NAAL Survey showed that 14 percent of adults had below basic health literacy; 22 percent had basic health literacy; 53 percent had intermediate health literacy; and only 12 percent had proficient health literacy. This means that 36 percent of adult Americans (nearly 90 million adults) have levels of health literacy below...
what is required to understand typical medication information.

While the NAAL survey provided estimates of health literacy of American adults, additional studies have examined the prevalence of limited health literacy in select populations. Williams and colleagues evaluated the functional health literacy of patients at two urban public hospitals that serve indigent or vulnerable populations in Atlanta, and Torrance, Calif. Thirty-five percent of all patients in Atlanta, 42 percent of Spanish-speaking patients in California, and 12.5 percent of English-speaking patients in California had inadequate health literacy. When patients with marginal health literacy were included, 47 percent of all patients in Atlanta, 62 percent of Spanish-speaking patients in California, and 22 percent of English-speaking patients in California had difficulty performing tasks that are required for seeking health care. Moreover, the authors found the prevalence of inadequate or marginal health literacy among patients age 60 years and older was between 48 percent and 80 percent. Another study conducted an analysis of community-dwelling Medicare enrollees in a national managed care organization. Approximately one-third of respondents had low health literacy defined as marginal and inadequate. Those with low health literacy were more likely to be non-white, older, have completed fewer years of school, have lower income, have one or more chronic conditions, and have an impairment in an activity of daily living. In another study of patients with asthma, 18 percent had marginal or inadequate health literacy.

Given the variability in prevalence rates reported in published studies, a systematic review was completed to try to estimate the prevalence of limited health literacy. This review examined 85 studies which included 31,129 patients. The prevalence of low health literacy ranged from 0 percent to 68 percent. Education level, advanced age, ethnicity, geographic location, and income were associated with health literacy levels. In summary, approximately 50 percent of participants had low or marginal health literacy.

WHO IS AT RISK FOR LIMITED HEALTH LITERACY?

Limited health literacy may be more common in certain patient groups. Table 1 summarizes populations that may be at risk and clues that may indicate limited health literacy. In the NAAL survey, for example, more men had below average basic health literacy than women, and women had higher average health literacy than men. Ethnic minorities like Black, Hispanic, and multiracial adults had lower health literacy than White and Asian/Pacific Islander adults; Hispanic adults had the lowest average health literacy compared to other racial or ethnic group adults. Age was another predictor; adults over 65 had lower health literacy than any other age group. Adults who did not complete high school were also more at risk for below basic health literacy. More-

<table>
<thead>
<tr>
<th>Table 1: Populations at Risk for Limited Health Literacy</th>
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<tr>
<td>• Elderly (65 years or older)</td>
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<td>• Ethnic minorities (Hispanic, African American)</td>
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<td>• Low income/Unemployed</td>
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<td>• Recent immigrants with limited English proficiency</td>
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<tr>
<td>• Persons with English as a second language</td>
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<td>• Persons with limited education (did not finish high school)</td>
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<tr>
<th>Clues or Red Flags for Limited Health Literacy</th>
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<tr>
<td>• Incomplete or inaccurately completed forms</td>
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<td>• Frequently missed appointments, lack of follow-through with tests or referrals</td>
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<td>• Nonadherence with medication</td>
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<td>• Unable to explain names of medications, purpose of medications, timing of medication administration</td>
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<tr>
<td>• Asks for old prescriptions bottles to be returned, especially if they have markings or symbols</td>
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<tr>
<td>• Refers to medications by colors and shapes rather than names</td>
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<tr>
<td>• Opens the prescription bottle to identify the medication rather than reading the label</td>
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<table>
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<tr>
<th>Excuses when asked to read something</th>
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<tr>
<td>• “I forgot my glasses. I'll read them when I get home.”</td>
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<tr>
<td>• “I forgot my glasses. Can you read this to me?”</td>
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<tr>
<td>• “Let me bring this home so I can discuss it with my children.”</td>
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<tr>
<td>• Does not turn written information right-side-up when given upside down</td>
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<tr>
<td>• Seldom asks questions when receiving new information/prescriptions</td>
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<tr>
<td>• Lots of paper folded up in pocket/purse</td>
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over, adults covered by Medicare, Medicaid or those with no insurance were more likely to have basic and below basic health literacy. In another study, respondents with marginal or inadequate health literacy were older, Black, or Hispanic. They were also more likely to have a lower income and fewer years of education.

Although risk factors for limited health literacy have been identified, it may still be difficult to identify specific individuals with limited health literacy. Some adults may be articulate and appear educated even though they have limited health literacy. Adults with limited health literacy may take special care to hide their illiteracy and have often developed coping mechanisms. For example, while with a health care provider, they may pretend to be able to read or bring someone who can read. They may watch others and copy what others do. They may make excuses when asked to read something or fill out a form. Some may never ask for help. Although “you can’t tell by looking,” some clues or “red flags” for limited health literacy have been suggested and are shown in Table 1.

RELATIONSHIPS BETWEEN HEALTH LITERACY AND VARIOUS HEALTH OUTCOMES
Research shows direct links between limited health literacy and health outcomes. For example, health care utilization, burden of disease, disease outcomes, health care costs, and mortality may be negatively affected by low health literacy. Scott and colleagues conducted an analysis of community-dwelling Medicare enrollees and found that older adults with limited health literacy were more likely than adults with adequate literacy to not receive preventive services such as influenza vaccine, pneumococcal vaccine, mammograms and Pap smears. Another study evaluated the impact of health literacy on outpatient physician and emergency room visits. Although health literacy did not affect the number of outpatient visits during the first year after enrollment, emergency room visits were 3 percent and 9 percent higher in patients with marginal and low health literacy, respectively, during the 12 months after enrollment. In yet another study, Baker and colleagues found that low health literacy was independently associated with an increased risk of hospital admission. The admission rates were 26.7 percent in patients with adequate literacy, 33.9 percent in patients with marginal literacy, and 34.9 percent in patients with inadequate literacy.

Health literacy may also influence burden of disease and even mortality. Among 3,260 older adults, those with low health literacy had higher rates of chronic conditions such as hypertension, diabetes, heart failure and arthritis. Functional health status, assessed using scores on the physical and mental health functioning subscales of the Medical Outcomes Study 36-Item Short-Form Health Survey, were affected by health literacy. Patients with limited health literacy had lower mean physical function and mental health and were more likely to report activity limitation. Rates of cardiovascular death were higher in those with marginal and inadequate health literacy. Death rates related to cancer and all other causes were also higher in patients with marginal and inadequate health literacy. Similarly, in patients with end stage renal disease, limited health literacy was associated with a 54 percent higher risk of death when compared with those with adequate health literacy.

Moreover, the economic burden associated with low health literacy is significant. Low health literacy was associated with a higher mean inpatient and emergency costs per visit. The average health care expenditures of persons with low literacy are four times greater than the general population. According to one estimate, limited literacy costs the U.S. health care system between $50–73 billion each year. Another source estimates that the burden of low health literacy to the U.S. economy to be between $206–238 billion annually.

WHAT METHODS ARE AVAILABLE TO ASSESS HEALTH LITERACY?
Numerous methods for assessing health literacy are available and can be categorized as word recognition test or reading comprehension test. Table 2 lists selected health literacy assessment tools that could be used in a pharmacy setting. Word recognition tests assess the ability to read and pronounce words correctly. The Rapid Estimate of Adult Literacy
in Medicine (REALM) is a 66-item word recognition test that is useful for predicting general reading ability; it has been widely used in research studies of health literacy. Medical words like “fat” and “hemorrhoids” are arranged in order of increasing difficulty; each correct pronunciation is counted. REALM-Revised is an abbreviated version with only eight words that takes less time to administer and could be used in a pharmacy setting. It can be accessed online for free (refer to “useful Web-sites”). A limitation to word recognition tests is that they do not assess word understanding.

Reading comprehension tests assess understanding of written information. The Test of Functional Health Literacy in Adults (TOFHLA) is a prototype reading comprehension test of health literacy. It is a two-part assessment. The first part provides the participant with medical information, and the second part assesses patient’s understanding of the information. The strength of this tool is that it provides an indication of patient’s ability to read and understand health-related information. Because it takes about 25 minutes to administer the test, it may not be practical in a clinical setting. Shortened versions of this tool have been developed and could be used in a pharmacy setting.

Another health literacy assessment instrument developed for clinical use is the Newest Vital Sign. This tool has been validated, is available for use free of charge and takes only a few minutes to administer. Patients are given a nutritional label of an ice cream and are asked to answer six questions related to the label. The questions require prose and quantitative literacy.

Because tools to assess literacy may be difficult and too time-consuming to administer in a clinical setting like a pharmacy, easier screening tools have been developed. The single-item health literacy screener (SiLS) is easy to use. A pharmacist or pharmacy technician can simply ask the patient, “How often do you need to have someone help you when you read instructions, pamphlets, or other written information from your doctor or pharmacy?” (Positive answers are “sometimes,” “often,” or “always”)

### SHOULDN’T YOU ASSESS PATIENTS FOR LIMITED HEALTH LITERACY?

Because health literacy is a significant cause of poor patient outcomes and “you can’t tell [a patient’s literacy status] by looking,” one may ask if patients should be assessed for low literacy. There is not a clear answer to this question, and the topic is controversial. Some experts do not endorse routine screening for limited literacy because patients are ashamed of their inability to read and screening may cause harm. Also, there is inconclusive evidence that screening would be helpful since evidence-based interventions are lacking. However, screening for health literacy may prove to be benefi-

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<th>Assessment Tool</th>
<th>Description</th>
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<tr>
<td>Newest Vital Sign</td>
<td>Patients review a nutrition label and answer 6 questions. Takes about 3 minutes to complete. Available at: <a href="http://www.clearhealthcommunication.com/">http://www.clearhealthcommunication.com/</a></td>
</tr>
<tr>
<td>Rapid Estimate of Adult Literacy in Medicine—Revised</td>
<td>A word recognition test where patients pronounce 8 medical words. Takes about 1–2 minutes to complete. Available at: <a href="http://www.adultmeducation.com/AssessmentTools.html">http://www.adultmeducation.com/AssessmentTools.html</a></td>
</tr>
<tr>
<td>Short Test of Functional Health Literacy</td>
<td>A reading comprehension test where patients answer questions about 2 prose passages and 4 numerical items. This tool is often used in research studies and takes about 12 minutes to complete.</td>
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<tr>
<td>Single-Item Literacy Screener</td>
<td>Simply ask the patient, “How often do you need to have someone help you when you read instructions, pamphlets, or other written information from your doctor or pharmacy?” (Positive answers are “sometimes,” “often,” or “always”)</td>
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cial in providing patient care; pharmacists may evaluate patients’ health literacy if the goal is to tailor care for the patient, especially during medication therapy management sessions.

**WHAT INTERVENTIONS IMPROVE CARE?**
Given the high prevalence of limited health literacy among American adults, pharmacists interact with patients with limited health literacy every day. What interventions can pharmacists implement to improve care for patients with limited literacy? Clinician-patient level and system-patient level interventions have been recommended.

**Patient-Centered Communication:** Pharmacists play an influential role in helping patients understand and decipher comprehensive and complicated medical information, especially information related to drug therapy. Since screening may be impractical and a patient’s outward appearance may not provide enough clues to health literacy level, a major intervention is to use effective patient-centered communication skills with all patients, also termed “universal precautions.” Using effective communication skills benefit all patients regardless of literacy levels and has been shown to reduce health disparities due to low health literacy. The goal is to translate complicated medical information into simple, logical, and easy to comprehend information and to keep conversations patient-centered. Also, when speaking with patients, first ask them what they know about the topic so that you can assess their understanding and clarify any misconceptions.

There are several strategies to improve communication with patients.

**Explain Health Information Clearly in Plain Language**
Health care providers often use medical terminology and jargon that patients may not understand. Many people, regardless of their literacy skills, have trouble understanding this unfamiliar language. While some medical terms may be totally unfamiliar, some familiar words may become unfamiliar in the health care context. For example, the word “stool” in the health care context may mean something completely different than in other settings. It is important to use plain language and words, especially words patients use day to day. For example, say “blood pressure pill” instead of “antihypertensive medication.” Explain things like you would explain to another family member, using “living room” language. Also, when speaking with patients, slow down; this will improve communication. Finally, avoid vague terms like “take on an empty stomach.” Instead, tell patients to “take one hour before you eat breakfast.”

**Show or Draw Pictures**
Illustrations are remembered more vividly than words, and pictures are often better than words in explaining difficult concepts. Adding pictures in addition to explaining information verbally has been show to increase patient understanding and recall of ideas (refer to “Useful Websites”).

**Limit Information to 3-5 Key Points and Repeat**
Patients will only remember a few key points in an educational session. Despite this, pharmacists overload patients with information in order to fulfill counseling obligations. When delivering an educational message, prioritize information and limit information to 3–5 specific key points that the patient needs to know at the present time. Also, focus on specific behaviors and actions that you want them to practice today. For example, if a patient is coming in for a cholesterol screening, tell the patient “I am going to tell you what treatment you will need and what you must do to help yourself.” Chunk information into a sequence that is logical, and repeat information to enhance recall.

**Use A “Teach-Back” To Check Understanding**
Confirming that a message was understood as intended is the most critical step of good communication. Simply asking the patient “Do you understand?” is an ineffective way to check understanding and should be avoided. Instead, an effective approach is the “teach-back” technique. With this technique, the patient repeats back or explains what you said in his or her own owns. When using the teach-back method, you can say “Just to make
Sure I explained myself clearly, tell me how you will take your medicine once you go home" or "If you were to explain this information to your friend, what will you tell him." This method of communication assures that the message given is understood correctly, and the patient can use the information provided. It also provides an interaction between the patient and pharmacist and allows them to fix gaps in understanding or reiterate key points. If the patient does not explain correctly, assume you have not provided the information effectively and re-teach the patient.

**Effectively Solicit Questions**

Asking questions effectively is another important step. If you ask, "Do you have any questions?" the patient will most likely respond "no." A better approach is to ask the patient, "What questions do you have?" This approach will make patients more comfortable asking questions.

**Be Respectful and Caring**

Being respectful, caring, and empathic can help build rapport with patients, thereby enhancing the therapeutic alliance between the patient and pharmacist. Ways to show respect include introducing yourself clearly, not using the patient’s first name without permission, considering the patient’s comfort during the interaction and exhibiting active listening skills. Empathy is being able to put oneself in another person’s situation. A way to show empathy is to be able to verbalize your understanding of the patient’s situation. For example, if a patient with a new diagnosis has a new, complicated regimen, tell the patient it is complicated and offer tips, pill reminders or other services to help.

Offer written information along with verbal instruction. Another strategy is to offer well-designed written information along with verbal instruction because providing both has been shown to increase knowledge and patient satisfaction. Writing the patient’s name on the handout and underlining key points of the written information can further help with recall. How to choose appropriate health-education materials is discussed below.

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**MEDICATION RECONCILIATION/ MEDICATION REVIEW/MTM**

Medication reconciliation is the process of identifying the most accurate list of all medications that the patient is taking, including name, dosage, frequency, and route, by comparing the medical record to an external list of medications obtained from a patient, hospital, or other provider. Medication reconciliation is a component of a comprehensive medication review and medication therapy management. This intervention is useful for patients with limited health literacy. It is important for pharmacists to verify how patients are taking their medications since limited health literacy has been shown to decrease adherence. Also, medication reconciliation or comprehensive medication review can be useful to identify limited literacy, because a patient’s inability to identify medications may be a clue to limited health literacy. When helping patients with medications, it is important to try to simplify the regimen, fit the dosing schedule around the patient’s daily routine, confirm that the patient knows how to take the medications appropriately, and recommend pillboxes to help manage medicines. An illustrated medication schedule or “pillcard” has been shown to be an effective patient education tool and promotes better understanding of prescription medication, especially in patients with limited literacy. The Agency for Healthcare Research and Quality (AHRQ) website provides instructions on how to make a pillcard (see useful websites).
SYSTEM-PATIENT LEVEL INTERVENTIONS
Use appropriate health education materials. As mentioned earlier, providing written along with verbal information helps to increase comprehension and knowledge retention. Most written health information is written at a level between the 10th and 12th grade, well above the reading level of the average American. Therefore, it is important that pharmacists choose patient education handouts and brochures that are well-written and well-designed. Suggested criteria for print materials are shown below and are summarized in Table 3.

Organization
The cover should be attractive; it should show the core content of the material and who the audience is. Similar to effective verbal communication, the material should highlight what the patient needs to know and do. To minimize information overload, only three or four main points should be presented. The use of headers and summaries are recommended to show organization and provide message repetition.

Writing Style
The print material should use conversational style writing with active voice. The use of technical jargon should be minimized, and the text should be vivid and interesting. It should be written at a 6th grade reading level. Readability can be calculated with various tools such as the Flesch-Kincaid Readability Formula available on Microsoft Word® or the Simple Measure of Gobbledygook (SMOG) available online.

Appearance
The pages should be uncluttered with ample white space. Lowercase letters are preferred, and capitals should be used only where grammatically needed. The use of all uppercase letters is discouraged. There should be contrast between the print and the paper, and the print size should be at least 12 point. Illustrations should be simple and should add to the text. Complex drawings should be minimized.

Appeal
The material should be culturally, gender, and age appropriate. The material should match the logic, language, and experience of the intended audience. Finally, the text should include interaction via questions, responses or suggested action.

STANDARDIZING MEDICATION DRUG LABELS AND DRUG INFORMATION
Because misunderstanding of directions on prescription drug labels is widespread and can affect patient safety, the U.S. Post Office has proposed new patient-centered prescription label standards. While some of these proposed labeling recommendations may not be feasible at this time, some of these standards can be implemented with ease.

Organize the Prescription Label in A Patient-Centered Manner
Only the most critical information needed for “safe and effective understanding and use” should be on the prescription container label.

Emphasize Instructions and Other Information Important to the Patient
The instructional content for the medication is most important and should be at the top of the label rather than other less critical information. For example, the patient’s name, drug name and strength, and clear directions for use in a simple language should be at the top of the label. Other information like pharmacy name and phone number should be at the bottom of the label or other less prominent area.

Simplify Language
“Language on the label should be clear, simplified, concise, and familiar, and should be used in a standardized manner.” Use only common terms and sentences.

Give Explicit Instructions
The instructions should clearly express the dose and when it should be taken. Use numeric rather than alphabetic characters for numbers. For example, write “Take 2 tablets by mouth in the morning and 2 tablets in the evening” rather than “Take two tablets by mouth twice daily.” Avoid vague instructions like twice
daily or 3 times daily, or hourly intervals such as every 12 hours. Also, avoid ambiguous directions like “take as directed” unless clear supplemental counseling or instructions are provided, and the label includes a clear statement referring the patient to such supplemental material.

Include Purpose of Use
Include the purpose of use on the label in a clear, simple, patient-centered language if the patient consents. For example, write “for high blood pressure” instead of “for hypertension.”

Limit Auxiliary Information
Auxiliary information on the container should be limited to evidence-based critical information necessary for the medicine’s safe and appropriate use.

Address Limited English Proficiency
When possible, the labeling should be provided in the patient’s preferred language.

Improve Readability
The prescription label should have simple, familiar, and minimum 12-point font. The directions should be written in sentence case, punctuated like a sentence in English. There should be adequate white space between lines of text and lines of text should be horizontal only.

Make sure your pharmacy is meeting patients’ needs. AHRQ has developed a Pharmacy Health Literacy Assessment Tool that was intended for use in outpatient pharmacies that serve minority and underserved populations but can be used in other settings. The objectives of this tool are to help to raise staff awareness of this public health issue, identify barriers that prevent your patients with limited literacy from receiving optimal care at your pharmacy, and identify opportunities for improvement. This tool can be accessed free of charge (see useful websites). Commit your pharmacy to completing

Useful Websites

- www.ahrq.gov/qual/literacy/healthliteracytoolkit.pdf
  Health Literacy Universal Precautions Toolkit
  This toolkit is published by the Agency for Healthcare Research and Quality AHRQ, the health services research arm of the U.S. Department of Health and Human Services. It provides excellent tools for health literacy that can be implemented at your pharmacy.
- www.nchealthliteracy.org/
  North Carolina Program on Health Literacy.
  The North Carolina Program on Health Literacy is a collaborative effort of the University of North Carolina Schools of medicine, nursing, public health, dentistry, pharmacy and education as well as community organizations and neighboring universities. This website provides comprehensive information and resources on health literacy.
- www.usp.org/usp-healthcare-professionals/related-topics-resources/usp-pictograms
  United States Pharmacopeia.
  United States Pharmacopeia has a free, downloadable pictogram library on its website.
  Hablamosjuntos.org.
  Hablamosjuntos.org also has resources for Universal Symbols in Health Care on its website.
- www.adultmeducation.com/AssessmentTools.html
  Adult Meducation: Improving Medication Adherence in Older Adults.
  The American Society on Aging and American Society of Consultant Pharmacists Foundation collaborated on the development of this website. It provides information on medication adherence and a copy of REALM-R.
- www.clearhealthcommunication.com/
  This website is supported and developed by Pfizer with the goal of promoting clear health communication between patients and providers. A copy of the Newest Vital Sign can be accessed from this site.
- www.hsph.harvard.edu/healthliteracy/resources/dook-book/
  Hosted by the Harvard School of Public Health, this book is considered a classic text in health literacy. The book can be downloaded from this site.
the Pharmacy Health Literacy Assessment to help meet your patients’ needs.

**CONCLUSION**
Addressing health literacy is a critical part of providing high-quality healthcare. Nearly 90 million U.S. adults have limited literacy skills, making limited health literacy a major public health concern. Limited health literacy has been linked to poor patient outcomes, increases in healthcare utilization, and increases in mortality rates. Various clinician-patient level and system-patient level interventions have been recommended to reduce the impact of health literacy issues. A major intervention is to use effective patient-centered communication skills with all patients. Through these interventions and increased health care provider awareness, the problems associated with low health literacy may be solved.

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**CONTINUING EDUCATION QUIZ**
Select the correct answer.

1. Which statement is TRUE?
   a. Adults with limited health literacy will disclose this information to their friends.
   b. Adults with limited health literacy will disclose this information to their spouse.
   c. Adults with limited health literacy will disclose this information to their health care providers.
   d. Adults with limited health literacy often try to hide this information.

2. Providing information at a patient’s level of understanding is a critical part of high-quality health care.
   a. True
   b. False

3. Patients with limited health literacy may have difficulty with which of the following?
   a. Understanding medication directions
   b. Understanding and completing forms at the pharmacy
   c. Refilling prescriptions on time
   d. All of the above.

4. Adults with poor health literacy skills feel intense shame and stigma.
   a. True
   b. False

5. According to the 2003 National Assessment of Adult Literacy survey, what percentage of patients had below basic and basic health literacy?
   a. 2 percent
   b. 22 percent
   c. 14 percent
   d. 36 percent

*Editor’s Note: For the list of references used in this article, please contact America’s Pharmacist Managing Editor Chris Linville at 703-838-2680, or at chris.linville@ncpanet.org.*
11. Limited health literacy has been associated with:
   a. Non-adherence
   b. Poor diabetes outcomes
   c. Increased utilization of emergency room
   d. All of the above

12. Limited health literacy has been associated with:
   a. An increase in mortality from disease
   b. A decrease in mortality from disease
   c. An increase in receiving preventive care
   d. An increase in disease knowledge

13. Limited health literacy has been associated with:
   a. Lower health care costs.
   b. Increased risk for hospitalization
   c. Increase in quality of life
   d. More self-management skills

Use the following case to answer questions 14–18.
ST is a 75-year-old man who presents to the pharmacy for a medication therapy management session. As he waits for his appointment, you ask him to complete some health and insurance forms to update his information. When he comes into the consultation room, you notice that the health forms are incomplete. He states that he left his reading glasses at home. When you conduct comprehensive medication therapy, he is unable to verbalize the indication for each medication. ST reports missing 1–2 doses per week and does not use a pillbox. You give him some patient educational brochures regarding his medications and ask him to look over it at home.

14. What clues indicate limited health literacy?
   a. Unable to verbalize the indication for each medication.
   b. Health forms are incomplete.
   c. Makes excuses.
   d. All of the above

15. Which of the following tools can be used to assess health literacy?
   a. Single-Item Literacy Screener (SiLS)
   b. National Assessment of Literacy Survey (NALS)
   c. Simple Measure of Gobbledygook (SMOG)
   d. Flesch-Kincaid Readability Formula

6. According to the 2003 National Assessment of Adult Literacy survey, which population was at risk for limited health literacy?
   a. Age 45 years or younger
   b. Age 55 years or younger
   c. Age 65 years or older
   d. Age was not a risk factor or limited health literacy

7. According to the proposed USP standards regarding prescription labeling, which of the following directions would be appropriate?
   a. Take 1 tablet by mouth every 12 hours.
   b. Take 1 tablet by mouth in the morning and 1 tablet in the evening.
   c. Take 1 tablet by mouth twice daily.
   d. Take as directed.

8. Which of the following may indicate limited health literacy?
   a. Patient refills prescriptions on time.
   b. Patient stuffs pharmacy literature in pocket and states “I will read this when I get home.”
   c. Patient is able to name medications and explain what medications are for.
   d. Patient correctly fills in insurance information on pharmacy intake form.

9. Which patient is at risk for limited health literacy?
   a. Evan, a G.E.D. candidate
   b. Rosa, a PharmD candidate
   c. Felix, an accountant from Australia
   d. Maria, a consultant with $67,000 annual salary

10. Adults with limited health literacy may cope in which of the following ways?
    a. Bring someone who can read.
    b. Make excuses.
    c. Pretend they can read.
    d. All of the above.
16. What communication strategies may be useful for this patient?
   a. Be sure to give written information only.
   b. Present the 10 key points about what the patient needs to do.
   c. Confirm patients understanding by asking the patient to repeat back a summary of what you said.
   d. Use medical terminology.

17. What communication strategies may be useful for this patient?
   a. Focus on what the patient needs to know and do.
   b. Speak quickly.
   c. Avoid pictures and illustrations to explain complex concepts.
   d. Don’t ask questions.

18. What intervention may be helpful for ST?
   a. Recommend a pillbox.
   b. Simplify the regimen as much as possible.
   c. Make a pillcard for ST.
   d. All of the above

19. Which statement is TRUE?
   a. Use of effective communication skills benefits all patients regardless of literacy levels.
   b. Use of effective communication skills does NOT reduce health disparities due to low health literacy.
   c. Use of effective communication skills should be limited to patients with limited health literacy.
   d. Use of effective communication skills should be limited to patients with good health literacy.

20. What is the best way to ask if your patient has questions?
   a. Do you have any questions?
   b. No questions, right?
   c. What questions do you have?
   d. All of the above

21. Is this program used to meet your mandatory C.E. requirements?
   a. yes b. no

22. Type of pharmacist: a. owner b. manager c. employee

23. Age group: a. 21–30 b. 31–40 c. 41–50 d. 51–60 e. Over 60

24. Did this article achieve its stated objectives? a. yes b. no

25. How much of this program can you apply in practice? a. all b. some c. very little d. none

How long did it take you to complete both the reading and the quiz? ______ minutes