

Health Literacy, Clear-Communication Prompting, and Clinicians' Self-Reported Responses

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To determine health literacy and learning needs, this study compared clinician self-assessment of patient-provider communication before and after implementation of a Clear Communication Profile.

Health literacy was defined by the U.S. Department of Health and Human Services (in *Healthy People 2010*) as the “degree to which individuals have the capacity to obtain, process, and understand basic health information.”¹ According to the most recent National Assessment of Adult Literacy (NAAL), approximately 90 million people in the United States are functionally illiterate.² Health literacy requires not just reading but also comprehension of spoken instruction, numerical tasks, and computing.³ Even people with adequate health literacy may not be able to understand all the information they need in order to address their health-related concerns. When patients leave the health care setting without an understanding of what is wrong and what they should do, the consequences can be severe. The risk is not only inconvenience or lost money, but potentially disability and death as well.

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Low health literacy is frustrating for patients, families, and health care workers. Patients are expected to navigate the health care system and take an active part in their care. They must follow medication and diet instructions, sign informed-consent agreements, and address health insurance issues.² Sources of miscommunication are often not clear and may result in patients being labeled nonadherent. Clear communication may be further hindered by language barriers, vision loss, hearing loss, and cognitive impairment. Clear patient-centered communication is a priority for patient safety and healthy outcomes.

Projected changes in the demographics of the U.S. population will present more challenges to health care providers. These changes increase the potential for culturally based disparities. It is expected that the development of interventions to improve cultural competence will decrease disparities and improve care for all.⁴ Physicians and patients were found to be more satisfied when more culturally competent behaviors were reported by their patients. The patients of physicians who reported these behaviors also said that they shared more information with their providers.⁵ The Joint Commission⁶ is developing ac-

creditation requirements for hospitals to advance effective communication, cultural competence, and patient-centered care.

Because it is impossible for any person to be familiar with every culture, skills that improve cultural competence universally are needed to provide better care.

BACKGROUND

Barriers to communication may be a source of health care disparities. Osborn and colleagues⁷ found that the effects of race became insignificant when health literacy was factored into treatment adherence. Ethnic minorities, the elderly, and people in rural areas have been those most severely affected by low health literacy, and they have had poorer outcomes.⁷⁻⁹ Some barriers to communication may be overcome, with decreases in debility and costs, if the health care system implements changes to improve communication.

Studies have found that physicians⁹ and residents¹⁰ were inaccurate in estimating their patients' health literacy levels. Health literacy was usually overestimated—minority patients' health literacy in particular.⁹ Many authors, in publications such as the *American Journal of Bioethics*,

have discussed the ethical obligation to provide health information in such a way that it can be understood and acted on by patients. This is a requirement of a just health care system.¹¹ Health professionals have expressed interest in health literacy information, and patients have been receptive to health literacy screening.¹²

Low health literacy correlates with decreased patient satisfaction.¹³ Patients with low health literacy are less likely than those with higher health literacy to take part in preventive health services.¹⁴ They also have more chronic illnesses that are not as well controlled,^{14,15} leading to significantly higher costs.¹⁶

Research supports the fact that low health literacy is a pervasive problem and that it presents a challenge in all areas of health care. Patients are often confused about what their health care providers say.¹⁷ In our review, we did not find any studies of health literacy being screened alongside communication barriers. Such studies would be hard to complete with large groups of patients because of time constraints and the difficulty in making the information accessible. New shortened health literacy screening tools, such as the Rapid Estimate of Adult Literacy in Medicine–Revised (REALM–R),¹⁸ solve the time-constraint problem (Figure 1), and the electronic medical record (EMR) used by the VHA allows information to be made readily available to all clinicians. Implementing health literacy screening, becoming educated in clear-communication skills, prompting for effective communication, and using patient education strategies may improve patient–clinician communication.

Cultural competence is also recognized as a key element in communication.³ Providing clinicians with tools to improve culturally competent

Health Literacy Screen for the Readiness to Learn clinical reminder:

Health Literacy: The degree to which individuals have the capacity to obtain process and understand basic health information.

REALM–R

Narrative: (hand patient the REALM–R word list)

Sometimes in the health care system, medical words are used that many people are not familiar with. I would like to get an idea of what medical words you are familiar with. Please SAY the words on this list:

Fat _____	Jaundice _____	Colitis _____
Flu _____	Anemia _____	Constipation _____
Pill _____	Fatigue _____	Osteoporosis _____
Allergic _____	Directed _____	

Fat, Flu, and Pill are not scored.

On reminder, choose either:
 Less than 7 words correct (at risk for low health literacy)
 7 words or more correct (normal health literacy)

Figure 1. Rapid Estimate of Adult Literacy in Medicine–Revised instructions.

behaviors is anticipated to be beneficial for patients and clinicians. The Joint Commission⁶ advised clinicians to address health literacy needs in order to ensure patient safety.

The Veterans Affairs Medical Center (VAMC) in Erie, Pennsylvania, implemented a plan to address 3 of 35 new specific patient education recommendations. Included were sensitization, education, and training of clinicians and health care organization leaders with respect to health literacy issues. Patient-centered communication encouraged use of established methods, such as “teach back” and assessment of patients’ literacy levels and language needs. Screening also involved other communication barriers, such as vision and hearing impairment and decreased cognition.

In recognition of the importance of cultural competence in health communication, and in anticipation of having to formally meet the re-

quirements that would be put forth by the Joint Commission,⁶ we incorporated an electronic prompt for provision of behavior demonstrating cultural competence, defined as the “ability to effectively care for patients from any cultural background.”¹⁸ We used the prompt together with the LEARN model: Listen with sympathy and understanding to the patient’s perception of the problem, Explain your perceptions of the problem, Acknowledge and discuss the differences and similarities, Recommend treatment, and Negotiate care.¹⁸

To meet these goals, the Preventive Medicine and Patient Education Committee developed 2 electronic clinical reminders within the documentation section of the EMR. The Clear Communication Profile, which is to be completed by health care technicians or nursing staff members, details vision, hearing, language, and other communication barriers.

Part 1. Clear Communication Questionnaire		1	A
Profession (please check appropriate box):			
LPN	<input type="checkbox"/>	RN	<input type="checkbox"/>
Pharmacist	<input type="checkbox"/>	Physician	<input type="checkbox"/>
Social worker	<input type="checkbox"/>	PT	<input type="checkbox"/>
		NP	<input type="checkbox"/>
		PA	<input type="checkbox"/>
		Other	<input type="checkbox"/>
Years of experience in current profession _____			
Part 1. Instructions			
Please answer the following questions about the techniques you use. Please read the statements, and then select numbers 1 through 5 to indicate how often you use each technique. 1 = almost never, 2 = seldom, 3 = half the time, 4 = often, 5 = almost always.			
Before Clear Communication Profile and education			
1) I am able to access information on my patient health literacy		1	2 3 4 5
2) I am able to access information on my patients' barriers to communication		1	2 3 4 5
3) I use <i>Teach Back</i> as a patient education method		1	2 3 4 5
4) I use <i>demonstration</i> as a patient education method		1	2 3 4 5
5) I use <i>reading aloud</i> as a patient education method		1	2 3 4 5
6) I present <i>2 to 3 concepts</i> at a time		1	2 3 4 5
7) I use <i>plain language</i>		1	2 3 4 5
8) I <i>speak slowly</i>		1	2 3 4 5
9) I use <i>written materials</i>		1	2 3 4 5
10) I use <i>pictures and drawings</i>		1	2 3 4 5
11) I <i>include significant others</i>		1	2 3 4 5
12) I <i>include techniques to provide culturally competent care</i>		1	2 3 4 5
13) I can easily locate information on a patient's <i>barriers to communication</i>		1	2 3 4 5
14) I change patient education techniques based on patient <i>health literacy information</i>		1	2 3 4 5
15) Comments:			
LPN = licensed practical nurse; NP = nurse practitioner; PA = physician assistant; PT = physical therapist; RN = registered nurse.			

Figure 2. Pretraining questionnaire.

ers and the findings of a health literacy screening performed with the REALM-R.¹⁹ This profile replaces the

Readiness to Learn Reminder and reflects the shared goal of clear communication between clinician and

patient. The screening is updated with changes in the patient's condition at least every 2 years.

The Patient Education Reminder displays the Clear Communication Profile screening information. The profile is individualized to the patient and includes prompts for effective education methods and cultural competence. A point-and-click feature is used to document education and specific communication strategies being used. Strategies include teach back; demonstration; reading instructions aloud to patient; presenting 2 or 3 concepts at a time; plain language; speaking slowly; providing printed materials; illustration; and including significant others.

Training for clinical reminder education was conducted in the usual way. Team managers reviewed changes with their staff and e-mailed PowerPoint presentations to familiarize staff with both the reminder and the clear-communication concepts. The committee distributed information folders to the staff. A patient education Web page, added to the EMR toolbar, allowed clinicians to review clear-communication tools, such as REALM-R instructions, the LEARN model, and a plain-language, health-related thesaurus. The screening reminder replaces an earlier clinical reminder related to patients' learning needs. Our implementation is staggered as the prior reminder becomes due on an every-2-year schedule.

METHODS

The VA multi-site Internal Review Board in Coatesville, Pennsylvania, approved this study to evaluate the Clear Communication Profile. The study was conducted at the Erie VAMC and its community-based, outreach clinics. Potential participants included all clinic staff members who were involved in direct

patient care. Using an electronic list of clinical staff members, we sent questionnaires to 220 clinicians. Clinicians included registered nurses, licensed practical nurses, physician assistants, nurse practitioners, pharmacists, physical therapists, physicians, psychologists, and social workers.

We did not use a control group because the EMR is universal, and the reminders could not be hidden from other clinicians. We developed an anonymous but matched (pretraining–posttraining) questionnaire (Figures 2 and 3). The pretraining questionnaire elicited clinicians' basic demographics, their awareness of health literacy, barriers to communication with their patients, and educational methods being used. A 5-point Likert scale allowed clinicians to rank self-reported use of educational methods from "almost never" to "almost always." We distributed the posttraining questionnaire 4 weeks after the reminders. The posttraining questionnaire asked clinicians if their perceptions about their patients' needs changed and, again, which educational methods were being used.

We performed statistical analysis with SPSS 17.0 statistical software (SPSS, Chicago, Illinois). Pretraining and posttraining questionnaire responses were analyzed with paired *t* tests.

RESULTS

We sent the pretraining and posttraining questionnaires to 220 clinicians; 40 matched pairs were returned. The respondents were in 5 professions (Table 1). Most were registered nurses (31%) and other nurses, including nurse practitioners and licensed practical nurses (24%). Social workers and psychologists did not return the questionnaires.

Part 2. Clear Communication Questionnaire	1	B
Part 2. Instructions		
Please answer the following questions about the techniques you use. Please read the statements, and then select numbers 1 through 5 to indicate how often you use each technique. 1 = almost never, 2 = seldom, 3 = half the time, 4 = often, 5 = almost always.		
1) I am able to access information on my patient health literacy		1 2 3 4 5
2) I am able to access information on my patients' barriers to communication		1 2 3 4 5
3) I use <i>Teach Back</i> as a patient education method		1 2 3 4 5
4) I use <i>demonstration</i> as a patient education method		1 2 3 4 5
5) I use <i>reading aloud</i> as a patient education method		1 2 3 4 5
6) I present 2 to 3 concepts at a time		1 2 3 4 5
7) I use <i>plain language</i>		1 2 3 4 5
8) I <i>speak slowly</i>		1 2 3 4 5
9) I use <i>written materials</i>		1 2 3 4 5
10) I use <i>pictures and drawings</i>		1 2 3 4 5
11) I <i>include significant others</i>		1 2 3 4 5
12) I <i>include techniques to provide culturally competent care</i>		1 2 3 4 5
13) I can easily locate information on a patient's barriers to communication		1 2 3 4 5
14) I change patient education techniques based on patient health literacy information		1 2 3 4 5
The <i>Clear Communication Profile</i> changed my idea about what patients understand		
<input type="checkbox"/> Yes <input type="checkbox"/> No		
If your ideas about patient learning needs changed did you		
<input type="checkbox"/> Overestimate their learning needs		
<input type="checkbox"/> Underestimate their learning needs		
<input type="checkbox"/> Estimated learning needs about right		
Please add any additional comments about the Clear Communication Profile:		

Figure 3. Posttraining questionnaire.

Table 1. Participants by profession

Clinician	Participants (N = 40) No. (%)
Licensed practical nurse	8 (17.8)
Registered nurse	14 (31.1)
Nurse practitioner	3 (6.7)
Pharmacist	6 (13.3)
Physician	9 (20)

An independent-samples *t* test was conducted to compare the pretraining and posttraining rates for the strategies of teach back and presenting 2 or 3 concepts at a time. There was a significant difference for each strategy. There was also a trend toward significance for the strategy of using plain language, which may show significance with a larger sample (Table 2).

These results suggest that reminders may increase self-reported use of effective teaching strategies for overcoming barriers to communication more often than before the use of the clear communication reminder. When clinicians are electronically reminded of patients' educational needs, they report that they will attempt to improve patient-clinician communication.

Most clinicians reported that they correctly estimated their patients' health literacy (Table 3). Still, 50% of clinicians reported that use of the clinical reminder "changed their ideas about what patients understand."

STUDY LIMITATIONS

This study had several limitations. There was a short period between the start of the clinical reminder and administration of the second questionnaire. When the second questionnaire was administered, only a small

percentage of patients' profiles was complete, as patients were screened when the prior Readiness to Learn Reminder was due. Clinicians may report more significant changes as more patients' profiles are completed. The pretraining-posttraining design may have led participants to overestimate their knowledge of health literacy, cultural competence, and how often they used effective teaching strategies.

After education and reminder implementation, participants may have realized that their prior scores were inaccurate. For example, they may have thought they were aware of health literacy and cultural competence, but the reminder and education may have shown them that they were not. Their accurate posttraining score may not have been higher than their inaccurate pretraining score, and a significant change may have been missed. Only nurses, physicians, and pharmacists responded to the questionnaire. More clinician groups would give richer data.

Most clinicians in this study reported that they correctly estimated their patients' health literacy level. This result is not consistent with results from other studies showing that health care providers cannot accurately estimate their patients' health literacy levels.^{9,10} These clinicians

may be more skilled, or they may be responding in a socially desirable way. The short follow-up from the beginning of the study may not have given them time to evaluate themselves accurately.

Although our goal was to explore the effect of the computerized clinical reminders on patient education activities, we attempted to measure what clinicians reported. Studies could be conducted to examine actual visits to determine what occurred. This could include discussions with patients about what actually occurred during education.

We developed the questionnaire for this study, so there is no information on its reliability or validity. Some nurse practitioners and registered nurses did the initial screening of the tool for comprehension and readability. A nurse education expert reviewed the instrument and offered suggestions for revisions before administration.

DISCUSSION

Although the risks associated with low health literacy are well accepted, the methods for overcoming these risks are less clear, and screening on its own is not enough.²⁰ Offering clinicians a clear-communication strategy through a clinical reminder shows promise as a means of prompting changes in patient education. Having a communication profile for each patient should allow the provider to spend education time in a more productive way. In this study, 2 of the most effective teaching strategies for patients with communication barriers—teach back and presenting 2 or 3 concepts at a time¹⁷—were significantly increased over a 4-week period. Over time, and with additional clinician education, there may be more improvement. The reminder also helps to simplify documentation

Table 2. Paired *t* tests

Strategy	Pretraining Mean (SD)	Posttraining Mean (SD)	<i>t</i> (df)	<i>P</i> ^a
Teach back	2.90 (1.48)	3.65 (1.31)	3.00 (39)	.005
Presenting 2 or 3 concepts at a time	2.95 (1.26)	3.43 (1.24)	2.55 (39)	.015
Plain language	4.70 (0.52)	4.99 (0.36)	1.86 (39)	.070
Clinician considers health literacy	3.18 (1.65)	3.48 (1.55)	1.29 (39)	.205
Clinician considers other barriers	3.10 (1.53)	3.43 (1.50)	1.62 (39)	.113
Demonstration	3.85 (1.10)	3.95 (1.15)	0.48 (39)	.634
Reading instructions aloud to patient	3.15 (1.25)	3.50 (1.28)	1.77 (39)	.085
Speaking slowly	4.55 (0.55)	4.68 (0.66)	1.77 (39)	.323
Providing printed materials	4.05 (1.31)	4.10 (1.03)	0.37 (39)	.711
Illustration	3.35 (1.19)	3.33 (1.25)	-0.14 (39)	.891
Including significant others	4.23 (0.77)	4.28 (1.01)	0.30 (39)	.767
Clinician use of LEARN model	3.23 (1.35)	3.35 (1.33)	0.64 (39)	.529
Clinician finds information on barriers	2.93 (1.49)	3.20 (1.38)	1.45 (39)	.155
Clinician finds health literacy information	3.30 (1.60)	3.65 (1.21)	1.48 (39)	.147

LEARN = Listen with sympathy and understanding to patient's perception of problem, Explain your perceptions of problem, Acknowledge and discuss differences and similarities, Recommend treatment, Negotiate care.¹⁸

^aSignificance at *P* ≤ .05.

and prompts clinicians to record patient education activities. This suggests that there is early interest in developing evidence-based practice when data on communication barriers are available.

There was a lack of response from behavioral health providers (social workers, psychiatrists, psychologists). Increased use of the reminder could benefit the patients of these providers, as communication barriers such as low health literacy are linked to increased depression and other behavioral health diagnoses.^{21,22}

The Joint Commission⁶ recognized that inadequate patient–clinician communication threatens

patient safety and “explicitly encourage[d] health care providers to provide patient education adapted to meet the individual patient’s literacy and language needs.” In a recent evidence report and technology assessment, the Agency for Healthcare Quality and Research²³ (AHQR) noted that patients whose physicians used the teach-back method appeared to have better control of their diabetes. AHQR also noted that studies designed to teach physicians to use this and other effective communication techniques are needed.

Use of a computerized clear-communication clinical reminder may be

one way to improve communication, but studies are needed to evaluate its effectiveness over time. Changes can easily be made to improve these reminders. Further studies may show that this type of electronic reminder can help us to improve patient outcomes, overcome disparities in health, and improve patient safety. With more intense education about overcoming barriers to health care communication, clinicians may be able to make additional improvements. ●

Author disclosures

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Table 3. Clinicians' self-reported estimates of patient health literacy

Self-reported estimate	Frequency	%
Underestimated	10	25.6
Correctly estimated	24	61.5
Overestimated	5	12.8
Total	39	100
Missing	1	—

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