

Development and Implementation of a Health Literacy Training Program for Medical Residents

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Abstract - Nearly 50 percent of Americans lack the literacy skills needed to function effectively in today's health care environment. Experts recommend that health professionals be trained to better communicate with low-literacy patients, but few educational programs have been described. We developed a training program for medical residents that includes a videotaped standardized patient encounter, interactive small-group workshop, one-on-one feedback with a faculty member, and an individual behavioral prescription for improved communication. The program employs key principles of adult learning theory and evidence-based teaching approaches. Residents felt that the topic was relevant and that their communication skills benefited from the intervention. They enjoyed the teaching methods, particularly the individual feedback on their videotaped encounter. A qualitative process evaluation is provided to facilitate the teaching of similar programs elsewhere. Response to this curriculum indicates that residency appears to be a suitable time to raise awareness of health literacy and build appropriate communication skills.

Approximately half of adult Americans have difficulty understanding and acting on health information.¹⁻³ Low health literacy is associated with poor disease-related knowledge, self-management skills, self-efficacy, medication adherence, and disparities in health outcomes.⁴⁻⁹ Several years ago, two expert panels recommended educating health professionals about health literacy and appropriate low-literacy communication techniques.^{10, 11} Recent research has also drawn attention to this need.¹² However, few such training programs are described in the medical, public health, or health education literature.¹³ A needs assessment among medical residents at our institution revealed that only four percent directly considered literacy in their patient care decisions, and in the presence of indicators of low health literacy, only 25 percent included health literacy in their assessment.¹⁴

In response to national recommendations and local needs, we developed a program for medical residents to teach them about health literacy and communication skills recommended for use with low-literacy patients.^{11, 15-20} The program includes a videotaped standardized patient encounter, interactive small-group workshop, and one-on-one review of the videotape with a faculty member who provides feedback and demonstrates recommended communication skills, leading to a behavioral prescription for the resident. This paper describes the educational model and provides a framework to facilitate the development of similar programs elsewhere.

Program Description

Overview - An overview of the training program is presented in Figure 1. During the introduction, the instructor briefly described the workshop content and distributed materials for the standardized patient encounter. After residents reviewed the materials, they were divided into two groups. Residents in one group each participated in a 10-12 minute patient encounter while the other group took a short break, and then they switched. This allowed the sessions to accommodate up to 14 residents with only seven patient examination rooms. The small group workshop began after everyone had completed the patient encounter. A one-on-one feedback session using the standardized patient video took place within three weeks of the workshop, as schedules allowed. Overall, the training lasted two and a half hours, divided across two days.

Setting and Population - The program was developed at Emory University School of Medicine by three physicians and a health educator with expertise in health literacy and physician education. It was implemented through the Emory Internal Medicine Residency Training Program. First, second, and third-year residents (N=93) participated from February to June 2004 as a required element of their ambulatory care rotation curriculum. The residency's primary teaching facility is Grady Memorial Hospital (GMH), an inner-city hospital where over 90% of patients on the medical service are Black and English-

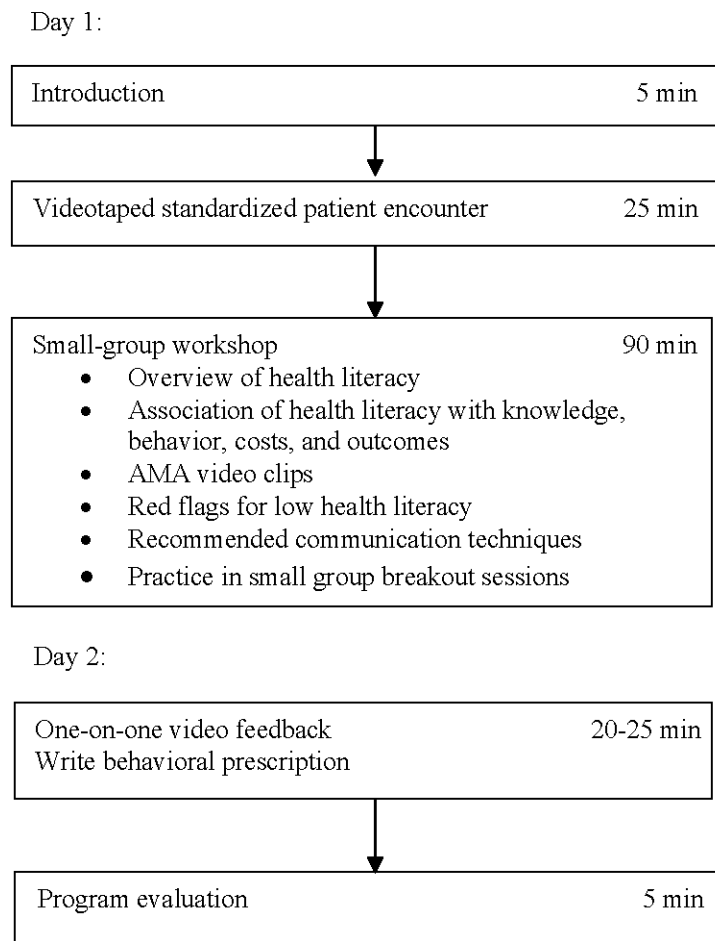


Figure 1. Overview of the health literacy training program.

speaking, and approximately 80% of patients over age 60 have limited literacy skills.^{21, 22}

Standardized Patient Encounters - The standardized patient (SP) encounters took place in Objective Structured Clinical Exam (OSCE) rooms equipped with video cameras, notepads, pens, and patient education handouts. In order to focus the patient encounter on the residents' communication skills, the 10 to 12 minute SP scenario was designed around basic clinical management of common conditions (hypertension and hyperlipidemia). Residents were asked to explain the diagnosis to the SP and provide counseling on lifestyle modification, a new medication, and potential side effects. The scenario was pilot tested with several medical residents and revised with their feedback.

To promote a uniform experience for the medical residents, the SPs received three hours of training. They were taught how to accurately portray their role as an adult with some high school education and limited health literacy and how to provide effective feedback on the resi-

dents' interviewing and communication techniques. They practiced the roles in small group training sessions and completed a pilot videotaped encounter with a medical resident, receiving feedback from two faculty members and each other.

Health Literacy Workshop - The 90-minute workshop included five to 14 medical residents and a faculty facilitator. The goal of the workshop was to teach residents about health literacy and practice skills recommended for effective communication with low-literacy patients.^{11, 15-20, 23} The learning objectives were to:

1. Define literacy and health literacy
2. Discuss health literacy and its relevance to patient care
3. Identify at least two red flags for possible limited literacy skills
4. Demonstrate the use of at least two techniques recommended to enhance communication with low-literacy patients

The content of the workshop was based on prior work in physician-patient communication and health literacy (Tables 1 and 2).^{11, 15-20, 23, 24} Participants also viewed a video clip from the American Medical Association Foundation health literacy toolkit, in which several adults with limited reading skills described their personal experiences with health care.²⁵

The communication skills covered in the workshop resembled those discussed in other, more comprehensive communication training programs, such as the Four Habits Model of Kaiser Permanente.²⁶ However, the workshop focused on behaviors to enhance the clarity of communication, such as minimizing the use of medical jargon, effectively soliciting patient questions, and confirming patient understanding. For example, participants were encouraged to avoid yes/no questions as they engaged patients in discussion, asking, "What questions do you have about your high blood pressure?" instead of "Do you have any questions?" With the latter wording, it is easy for patients to reply, "None," when they actually may have several questions but feel ashamed, shy, or rushed about asking them. The teach-back technique was emphasized as the most effective way to confirm patient understanding.²⁷ Table 2 provides an example.

The evidence-based teaching style followed principles of adult learning to promote active participation, fully engage participants, meet their individual needs, and maximize behavior change.^{28, 29} Residents were encouraged to discuss their perceptions of, and previous experiences with, low-literacy patients, focusing on communi-

cation difficulties. Small group breakout sessions allowed residents to practice the teach-back technique and other recommended communication strategies. In these breakout sessions, residents participated in teams of three, with one serving as the patient, one as the physician, and the third as an observer who provided feedback. A sample task was to explain a diagnosis of mitral regurgitation. An effective explanation might have included drawing a simple picture, comparing a heart valve to a door connecting two rooms, and asking the patient to repeat back his understanding of the condition.

Video Feedback Session and Behavioral Prescription - Each resident met with a faculty member within three weeks of the workshop to review his or her videotaped SP encounter. Using a digital media converter, each video was converted to a CD ROM, which allowed playback on a desktop or laptop computer. This system provided greater portability and convenience than having to secure a video player and television each time. The feedback sessions were conducted during any available block of time, most often in a faculty office during lunch. Each session lasted 20-25 minutes and included both positive and constructive feedback. The faculty member helped the resident note complex language, gauge the patient's level of comprehension, and see opportunities for a teach-back. Faculty modeled alternate ways to provide patient education, using a combination of simple language, drawings, and writing a list of key points that the patient could take home. Residents also viewed feedback from the trained patient actor, which was recorded on the tape after the physician had left the exam room.

Table 1. Identifying patients with low health literacy in clinical settings: examples of red flags

- Seek help only when illness is advanced
 - May present with severe exacerbations of congestive heart failure, asthma, hypertension, or diabetes
- Have difficulty explaining medical concerns
 - May not be able to articulate symptoms or time course of illness
 - Rarely have a written agenda for the visit
- Struggle with medical forms
 - Medical history forms may be incomplete
- May offer excuses to deflect reading tasks
 - "I forgot my glasses."
- Lots of papers folded up in purse/pocket
 - Important and unimportant or expired papers mixed together
- Lack of follow-through with tests and appointments
 - Could be labeled as "non-compliant"
- Seldom have questions
 - May be ashamed to ask simple questions or may seek answers elsewhere when they don't understand something the physician says
- Can't describe how to take medications
 - May have difficulty reading or interpreting labels

Table 2. Communication skills emphasized in workshop^{11, 15, 17-20, 24}

- 1) Explain things clearly in plain language
 - Slow down
 - Use everyday language instead of medical jargon (e.g., “shot” instead of “immunization”)
 - Watch for medicalized use of normal words (e.g., “diet” means any food intake to a physician, but means a weight loss plan to lay persons)
 - Use analogies (e.g., “Arthritis is like a creaky hinge on a door.”)
 - Be specific and avoid concept words (e.g., say “milk” instead of “dairy products”)
 - Define new terms the patient must know (e.g., “Today, I’d like to talk to you about hypertension. That’s the same thing as high blood pressure.”)
- 2) Focus on key messages and repeat
 - Emphasize just 1-3 key points at each visit
 - Review and repeat key points at the end of the visit
 - Have staff reinforce key messages
- 3) Use a “teach-back” to check understanding
 - Put the burden on physician’s shoulders (e.g., start by saying, “I want to make sure I explained everything clearly.”)
 - Be specific about what the patient should teach-back (e.g., “We talked about 3 ways to get your blood pressure down. When you go home, how are you going to take this new medicine?” then “Ok, tell me 2 foods that you’re willing to give up because they have too much salt.” then “Ok, now what’s one exercise that you’re willing to start?”)
- 4) Use patient-friendly educational materials and drawings
 - Give educational materials that patients can take home to review with friends or family members
 - Draw simple pictures rather than trying to explain everything verbally
 - Write down key points, important results, medication instructions, appointment times, etc.

The actors spoke into the camera as if they were the patient, often expressing feelings of being overwhelmed by the amount of information provided or the complexity of the physician’s speech.

Based on the faculty and SP feedback, the resident’s self-reflection on the video, and the principles covered in the workshop, each resident then wrote down one to three specific steps that he or she planned to take to enhance physician-patient communication. This behavioral prescription was written on a pocket-sized card which also summarized the main points of the workshop, and was kept in the resident’s white coat for future reference.

Evaluation - After the feedback session, all residents were asked to complete an educational program evaluation. The two-page form included 12 questions to rate the relevance of the content, effectiveness of the teaching methods, and achievement of educational objectives. Respondents answered these on a five-point Likert scale ranging from “strongly agree” to “strongly disagree.” They also completed several open-ended questions, describing how they planned to apply the information learned and providing recommendations on how to improve the training program. Answers to the Likert scale questions were examined with descriptive statistics in SPSS version 12.0. The open-ended answers were reviewed for common responses, and representative com-

ments were selected. In addition to reviewing the resident evaluations, the authors reflected on the implementation experience. The educational evaluation was approved by the Emory University Institutional Review Board.

Program Evaluation

Resident Evaluations and Feedback - The evaluation response rate was 88% (N=81). Most respondents were male (61.7%), and all three post-graduate years (PGY) were well represented (33.4% PGY-1, 42.0% PGY-2, and 24.7% PGY-3). On a five-point Likert scale, 95-100% “agreed” or “strongly agreed” that each of the four training objectives was met. Participants replied similarly that the overall teaching method was effective (98.8%), the skills learned could be applied to patient care (100%), the topic was relevant to their professional needs (100%), and the program should be repeated (96.3%). Responses did not differ significantly by year of training.

When asked how they planned to use what they learned, representative comments included: “Ask better questions to find out what the patient understands.” “I will try to re-assess my patients’ understanding more frequently during an encounter. I will try to use illustrations to help make my point.” “Teach back and simple language.” These comments were similar to the residents’ behavioral prescriptions, which also focused on clarity of communication and more effective assessment of patient

comprehension. For example, one resident noted that she would 1) start to assess patients' baseline understanding by asking them what they already knew about a topic before she began an explanation, 2) write down instructions for new medications, and 3) ask the patient to repeat back the instructions at the end of the visit.

Residents offered several suggestions to improve the program, which may inform future health literacy curricula. They cited personal feedback on the videotaped encounter as the most valuable part of the training, even though many were initially apprehensive. Residents suggested allowing 15 minutes for the standardized patient encounter (instead of 10 to 12) and 30 minutes for the feedback session (instead of 20 to 25). Others noted that videotaping participants with real patients rather than with standardized patient actors would provide a more accurate reflection of the physicians' communication styles, which may vary based on prior interaction with the patients. Finally, many commented that the first year of residency training would be an ideal time for health literacy training.

Reflection of Program Developers and Faculty -

While it may be important to discuss health literacy in all levels of medical training,¹⁰ we agree with the participants that early residency appears to be an ideal time to teach physicians about health literacy and effective communication strategies. At this stage, their clinical, interviewing, and counseling skills provide an appropriate foundation, and because it is still a time of learning, residents are willing to adjust their communication techniques. Others have attempted to teach second-year medical students about low-literacy using standardized patient encounters, but the students seemed to have too little clinical exposure to address these complex issues.³⁰

Use of simple, standardized patient scenarios allowed us to efficiently obtain a snapshot of physicians' use of jargon and specific communication techniques. This fostered a productive discussion during the feedback sessions, which remained focused on how to more effectively communicate with patients, rather than being sidetracked by discussions of disease management or other issues. The trained SPs were also able to provide residents with valuable feedback which actual patients would be very reluctant to do, particularly if they have low health literacy and are ashamed.^{31, 32} Of note, SPs with no prior experience performed as well as seasoned actors, in part due to their shared difficulties in navigating the health care system.

In the context of limited curricular time, two and a half to three hours appears sufficient to introduce this important educational content. However, we suspect that residents would benefit from ongoing training, such

as annual completion of a videotaped encounter with a dedicated feedback session, or more routine communication skills feedback by attending physicians in the clinic and inpatient setting. Such one-on-one feedback appears well-received by trainees, and the individualized approach is a feature of successful programs for the adult learner. Low-literacy communication skills could also be reinforced during required proctored history and physical exam sessions, so that feedback on this exam specifically addresses use of medical jargon and assessment of patient comprehension, in addition to clinical skills.

Discussion

We successfully developed and implemented a health literacy training program for physicians with an emphasis on behaviors to improve the clarity of physician-patient communication. To our knowledge, this is the first description of a communication skills curriculum for medical residents that includes health literacy as a key construct. Residents felt the topic was very important, enjoyed the format, and particularly valued the opportunity to receive feedback on a videotaped patient encounter. Clinician educators who wish to design health literacy curricula at their own institution may benefit from the educational framework described above, as well as the reflections of our residents and faculty on the educational experience.

The content of this program was based on expert recommendations, which in turn, were derived from extensive clinical and research experience with low-literacy patients.^{4, 11, 15-20, 33} Some of these recommendations, including use of the teach-back technique and drawing pictures, are supported by empirical evidence.^{27, 34-36} Others, such as avoiding medical jargon and limiting information to a few key points, have excellent face validity as techniques to improve the clarity of medical encounters and physicians' explanations, in particular. These domains are among the most problematic for individuals with inadequate health literacy.³⁷ Further research is needed, however, to establish the precise skill set that will most effectively promote clear communication among physicians and low-literacy patients.

Future work in this area should address issues beyond the scope of the present manuscript, which describes a single educational program. First, the ideal format and time for teaching physicians about health literacy have not yet been determined. While our training program appears well-suited for medical residency, other approaches may be superior, such as those employing real instead of standardized patients. It may also be more effective to include these communication skills as an element of broader programs that teach communication behaviors as

well as affective and relational issues.

As educators consider developing new curricula or targeting different audiences, they should consider participants' baseline confidence in patient interviewing and counseling, interest in the subject matter, willingness to adapt communication strategies, and acceptance of the proposed educational format.^{38, 39} While health literacy is gaining recognition as an important factor in patient care,¹ some groups of medical trainees (e.g., beginning medical students) may not yet be prepared to develop effective low-literacy communication skills, while others (e.g., practicing physicians) may require more intensive interventions to change established communication patterns.^{40, 41} New curricula will also inform the ideal duration for health literacy training among different audiences. Other non-literacy-related communication skills programs have ranged in length from one hour to over 20 hours.^{39, 42-45}

Finally, while we would like to suppose that teaching physicians to better communicate with low-literacy patients will improve patient satisfaction, comprehension, adherence, and health outcomes, further work is needed to assess the downstream effects of such communication skills training. Such studies have already been conducted to evaluate other communication skill sets and will be vital to the growth of health literacy research and education efforts.^{46, 47}

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