

The Stoplight Method: A Qualitative Approach for Health Literacy Research

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ABSTRACT

The Stoplight Feedback Toolkit was developed to engage patients with low health literacy in qualitative research, to overcome known barriers to participation, and to field test written health materials. Three focus groups of patients with low health literacy were conducted using the Stoplight methods. Participants with inadequate health literacy were identified using data from electronic health records at an academic medical center, using a validated screening question. Participants were recruited by phone using a script that was written in plain language. Three focus groups were conducted with a total of 10 unique patients. In each focus group, a facilitator read the health materials aloud to the participants and then walked them through a guided process of stoplight coding of the materials, consensus discussion, and user feedback. Color-coded materials, verbal comments and feedback, and behavioral observations were collected as qualitative data. Data were analyzed, sorted into themes, and mapped onto health literacy and plain language best practices. The Stoplight methods were successful in engaging patients with low health literacy to overcome barriers to participation, as well as in soliciting qualitative results that guided recommendations for improvement of the materials. [*Health Literacy Research and Practice*. 2017;1(2):e18-e22.]

It is well documented that low health literacy is associated with medication errors, hospital admissions, unnecessary emergency department visits, skipped screenings and vaccinations, and misinterpretation of treatment plans (Berkman, Sheridan, Donahue, Halpern, & Crotty, 2011). Stakeholders across health care systems recognize the important link be-

tween health literacy and health status and are working to provide patient and consumer health and benefits information that promotes “clear communication” and (1) is easy to access, understand, and act upon; (2) promotes self-engagement in one’s own health; and (3) results in better health outcomes (DeWalt et al., 2010).

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Experts recommend using health literacy and numeracy best practices to insure print health information and online content are written in plain language. Plain language is writing that is easy to understand the first time you read it (U.S. Department of Health, National Institutes of Health, 2016). In response to a call to action at the Health Literacy Annual Research Conference in 2015, the University of Arkansas for Medical Sciences (UAMS) Center for Health Literacy (CHL) also began to incorporate and refine qualitative methods (Mack, Woodsong, MacQueen, Guest, & Namey, 2011) to capture patient/consumer perspectives about the organization, design, formatting, tone, and understanding of printed and online health information. This “plain language field testing” solicits feedback on materials that have been vetted using health literacy best practices to determine the ease of understanding and use by a target audience. Recently, the CHL has begun to convene focus groups of patients with low health literacy to solicit feedback from those who are likely to struggle the most. The rationale for this new best practice is that if patients with low health literacy find materials easy to understand and use, then it is likely that others will too. Additionally, if plain language best practices are followed, these materials will not be “dumbed down” or inadequate for those with higher health literacy skills levels. This approach aims to address common disparities that many interventions may inadvertently contribute to instead of mitigate; patients with higher health literacy often benefit the most from health education whereas those with lower health literacy, who have worse health outcomes, benefit less (Australian Commission on Safety and Quality in Health Care, 2014; Berkman et al., 2011; Cornett, 2009).

Our researchers have aimed to develop and test methods to engage patients with low health literacy in focus groups using a patient-centered, respectful, and systematic approach. The Stoplight Feedback Toolkit was developed using engagement techniques, group facilitation methods, health literacy best practices, and principles of plain language, using a simple patient-centered stoplight theme that has been successful at promoting understanding (Ashir & Marlowe, 2009; Koenigstorfer, Groeppel-Klein, & Kamm, 2013; Rayner, Scarborough, Boxer, & Stockley, 2005). Although study results are included, the focus of this brief report is on describing methods that may have utility for health literacy researchers, especially those who work with qualitative data.

METHODS

The Stoplight Feedback Toolkit was tested in three focus groups of patients with low health literacy. The study was approved by the UAMS Institutional Review Board prior to

initiation. Focus group participants were identified and recruited through data extraction from electronic health records at an academic medical institution. A list of eligible participants was generated and project staff recruited participants by phone using a script that was written in plain language and invited them to provide input in a patient group setting. The focus groups were conducted after normal working hours in the clinics where the patients had visited and parking was validated and free. Participants received a \$20 gift card to thank them for their participation. The contents of the Stoplight Feedback Toolkit can be found in **Table 1**. An essential part of the toolkit was the wall guide for “Stoplight Feedback” (**Figure 1**).

Plain language assessment and analysis were completed on the materials being tested using the Fry Graph and Flesch-Kincaid Grade Level formulas (Zamanian & Heydari, 2012) and FORCAST (FORd, CAylor, STicht) (Caylor & Sticht, 1973). The mean readability of the narrative, prose portions was at a seventh-grade level, falling within the recommended eighth-grade level, and the document literacy demand mean readability was at a tenth-grade level. This difference in readability demonstrates the documents did not have long sentence structure but included many multisyllabic words.

The CHL uses focus groups to field test health information to learn about consumer perspectives and opinions. These focus groups include guided group discussions about a specific topic (eg, a health document on a specific illness or online content) (Gill, Stewart, Treasure, & Chadwick, 2008). The focus group process is qualitative in nature and includes a facilitator or moderator, a process observer/note taker, and patients/consumers. The facilitator/moderator asks questions and prompts participants to freely share and discuss thoughts, feelings, and perspectives with others in the group. The process encourages interaction in which participants can respond to others’ opinions and provide counter ideas that may offer greater insight on perspectives shared by the group.

For the Stoplight focus groups, after the “ground rules” (i.e., there are no right or wrong answers, respect others opinions) were shared, the participants were given a printed copy of the health materials being tested. The materials were then read aloud to the participants by the facilitator. The participants were then given a red pen and instructed to use the “stoplight” approach on their copy of the materials: “Please go through the page we just read and mark anything on it that made you stop because it is hard to understand. Red means stop. Red means hard. You can mark words, sentences, numbers, pictures, or whatever you think is hard to understand.” After all of the participants had completed that task, they were given green pens and the following instructions:

“Now use your green pens. Green means go. Green means easy. Mark anything that you think is easy to understand and doesn’t slow you down at all.” After that task was complete, the participants were given a yellow highlighter and the following instructions: “Lastly, yellow means slow down. Mark anything with yellow that you understand, but was harder than you feel like it should be. Mark anything that you feel could be better.”

The next phase in the process was to establish consensus of coding among the group through sharing and guided discussion. The focus group concluded when the group agreed that the consensus document reflected the most important red, yellow, and green elements.

The observer/note taker recorded observations of participant behavior and comments. Participants’ verbal responses, color coding, comments, and feedback were all qualitative data used for the study. These data were analyzed and sorted into themes to discover answers to exploratory questions about the materials. The exploratory research question was “How easy or difficult do patients with low health literacy perceive the document?” The qualitative data were first coded by two researchers to identify common themes. The themes were listed, sorted, reduced, and then mapped in a table format onto known health literacy best practices cited in the literature. Recommendations for materials improvement was created based on the table of results.

RESULTS

The same methods were used in 3 focus groups on 3 separate dates in 2016 with 4 to 7 participants in each. All participants were adult patients, described themselves as either white or African American (both groups were represented), and had inadequate health literacy as indicated by their responses to a health literacy screening question (Stagliano & Wallace, 2013).

One participant may have lacked the general literacy skills to read and understand any of the content or instructions, but was able to participate in discussion and provide verbal feedback. The consensus (color coded) documents and themes from the participant feedback were all analyzed and mapped onto health literacy best practices. Examples of these results are in **Table 2**. Results like these can be used to make recommendations for specific improvements that are aligned with best practices.

DISCUSSION

People with low literacy/health literacy skills are often reluctant to consent to participate in research (Livaudais-Toman, 2014; Joseph, 2009; Lloyd, 2008), but their input is increasingly valuable as they are frequently included in the

TABLE 1	
Contents of the Stoplight Feedback Toolkit	
•	Sign-in sheet
•	Consent to be recorded forms
•	Plain language facilitator’s guide
•	Wall guide for “ground rules”
•	Wall guide for “Stoplight Feedback” (see Figure 1)
•	Pens (red and green) and highlighter (yellow)
•	Large, easel-sized paper
•	Permanent markers
•	Digital audio recorder



Figure 1. The Stoplight coding method.

most high-risk patient populations. This study aimed to explore methods to overcome common barriers to engaging patients with low health literacy so that their perspectives could be shared in respectful, nonthreatening ways that will benefit more patients in the future. Patient-centeredness and community engagement principles promote active involvement in the decision-making process by those most affected by decisions (Ahmed & Palermo, 2010; Israel et al., 2003). Patient/consumer engagement via the field-testing process integrates user perspectives to insure that patients/consumers of all skill levels can read and understand health information. The field-testing process can balance health literacy expertise with real-world perspectives about the organization, design, formatting, tone, and understanding of print and online health information. What is learned from patients/consumers about how they perceive, understand, and use health information contributes to emerging health literacy

TABLE 2

Examples of Plain Language Best Practices and Major Themes from Focus Groups

Plain Language Best Practice	Themes/Patient Feedback from Focus Group 1	Themes/Patient Feedback from Focus Group 2
Use active voice	Adequate	Adequate
Make sentences direct, simple, and short	Adequate	Adequate
Delete unnecessary information	Adequate	Adequate
Use personal pronouns	Adequate	Adequate
Use common, everyday words and not jargon	"Stride out," "first awakening," "descending," "ascending," "loaded leg," "pivoting"	"Module"
Place the main message at the beginning, most important info first	Adequate	Adequate
If you use a technical word, define it; provide explanations and examples when needed	"Grinding," "restriction or slowness," "bending your hip fully," "maintaining hip position," "heavy/light domestic duties," "physical function when being active on a higher level," "confidence in hip," "physical activities potentially damaging your hip"	"Performed any specific activity" "Usual technique"
Use headings to guide readers and "chunk" information	Adequate	Adequate
Use bullets, numbered lists, or tables	"Questions should be numbered from 1 to 40 instead of S1 to S3 and then P1 to P10"	"Answers [response options] are not in line [alignment with questions]" "Answers don't always fit the questions" "Needs to be clear that scoring instructions are not for patients"
Use simple fonts	Mixed; half of the participants perceived the font as adequate and half noted it needs to be larger	Adequate
Use white space	Adequate	Adequate

Adapted from "Plain language," by Centers for Disease Control and Prevention (2015); from "Toolkit for making written material clear and effective," by Centers for Medicare and Medicaid Services (2016); and from "Plain language at NIH" by National Institutes of Health (2016).

research. The Stopligh methods described were successful at overcoming barriers to participation for patients with low health literacy, soliciting valuable data, and engaging valued stakeholders in health literacy research.

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