


Development of a Clinical-Academic-Community Collaboration to Improve Health Literacy

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Abstract

Limited health literacy is associated with poor patient health outcomes and increased hospitalization rates. Patient-provider communication plays an important role in patient health literacy and the understanding of medical terminology. This study demonstrates how a collaboration between clinical, academic, and community partners was instrumental in the design and implementation of a clinic readiness assessment and a clinic-based pilot intervention to encourage patient-provider communication and improve patient health literacy. A state hospital association, academic research team, and community adult literacy center director collaborated to develop a 60-item clinic readiness assessment and an evidence-informed pilot intervention. The clinic readiness assessment captured clinics' motivation and capacity for pilot implementation and providers' current communication strategies. The intervention centered around AskMe3™ educational materials and involved 2 patient visits (initial and follow-up visits). Data collection instruments for the intervention were administered verbally and included questions about patient demographics and communication needs, and a single-item health literacy measure. Descriptive statistics (frequencies/percentages) were used to analyze results from the clinic readiness assessment and pilot intervention. Establishment of the partnership, and collaborative, iterative development of the clinic readiness assessment and pilot intervention are described. This pilot project resulted in important lessons learned which led to critical modifications that will inform future expansion of the intervention. Collaboration between healthcare leaders, researchers, and community partners is recommended for developing clinic-based health literacy initiatives.

Keywords

partnership, health literacy, clinic readiness assessment, patient-provider communication

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Introduction

Health literacy is “the degree to which individuals can obtain, process and understand the basic health information and services they need to make appropriate health decisions.”^{1,2} In the United States, nearly 40% of adults have limited health literacy, resulting in difficulty with or inability to read and understand medical information.^{3,4} Limited health literacy is associated with poor health, increased hospitalization rates and use of healthcare services, dissatisfaction with care received, and higher healthcare costs.^{5,6} The inability to read and understand health-related materials may lead to increased feelings of shame and stigma, a lack

of appropriate communication regarding health issues, and ultimately a decrease in treatment plan adherence.⁷⁻¹⁰

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Limited health literacy has been considered a stronger predictor of an individual's health status than many common socioeconomic variables.⁶

Medical information is generally conveyed using technical language with patient-focused print and web-based materials often written at a high school level and beyond.¹¹ The development and use of plain-language health information that incorporates user-friendly terms, materials, and communication methods is critical for improving patient-provider communication,^{11,12} patient experiences and outcomes, and healthcare provider burden.^{13,14} With its focus on the health and well-being of the nation, relevant objectives of Healthy People 2020 are to increase the proportion of individuals who report receiving plain language medical information from providers and to increase the proportion of individuals who report being asked by providers to share back a description of their medical instructions to ensure understanding.¹ In 2007, the National Patient Safety Foundation (which then merged with the Institute for Healthcare Improvement in 2017) introduced AskMe3™, a patient-focused program designed to educate patients and enable their healthcare participation through the use of 3 questions: “*What is my main problem?*”, “*What do I need to do about it?*”, and “*Why is it important for me to do this?*”.^{15,16} AskMe3™ has demonstrated effective improvement of both patient awareness and engagement.¹⁷⁻²⁰ Additionally, research indicates that providers tend to share more information with patients who ask a greater number of questions.²¹ Together, the active patient role and increased patient-provider dialog also appear to improve information retention by the patient.²¹ Communication effectiveness is increased as a result of modifications made by both provider and patient.

It is known that clinical-academic-community partnerships are effective in addressing patient-provider communication and health outcomes.²²⁻²⁶ Such collaborations pool greater resources and enable a broader reach of health messaging.^{22,24,25} The organization and success of these collaborations also requires identification of program champions within both administrative and clinical settings.²⁷ The current study describes the establishment of a collaboration between clinical, academic, and community partners to develop a clinic readiness assessment and a clinic-based pilot intervention involving AskMe3™ materials.

Development of the Collaborative Partnership

A state hospital association quality advisory council (QAC) approached a university research team for guidance on the design of a health literacy intervention that would encourage patient involvement in their care and increase provider attention to patient health literacy. The research team presented information to the QAC on health literacy, patient-provider

communication, steps for developing a pilot intervention, and the importance of determining an organization's readiness prior to intervention implementation. Following this presentation, the researchers collaborated with QAC members, 2 readiness research experts^{28,29} and an established community adult literacy center director^{12,30-33} to develop both a clinic readiness assessment and a clinic-based pilot intervention.

During this development phase, regular communication occurred between university researchers, members of the QAC, and the community adult literacy center director via meetings, emails, and conference calls, with partners' ideas documented in Microsoft Excel (Office 365, v16) by the university researchers. The research team members also provided progress reports on monthly QAC conference calls. In addition, all of the materials and protocols developed for this initiative were presented to the QAC to guide modifications as needed for future implementation. All materials and protocols were approved by the university's Institutional Review Board.

Development of the Clinic Readiness Assessment

Prior to implementation of an intervention, it is important to examine readiness, or the extent to which an organization is willing and able to implement a particular innovation.²⁸ Development of the clinic readiness assessment was guided by the *Interactive Systems Framework (ISF) for Dissemination and Implementation*²⁹ using the $R = MC^2$ heuristic for Readiness equals Motivation \times General Capacity \times Innovation-Specific Capacity²⁸ and is an adaptation of the Readiness Diagnostic Score or RDS.³⁴ The ISF, developed in part by the Centers for Disease Control and Prevention, was initially used in the fields of youth violence and child maltreatment prevention²⁹ however, it has been implemented widely in a variety of settings.^{35,36} For our initiative, the innovation was the proposed intervention that would center around the AskMe3™ questions.

The clinic readiness assessment was collaboratively finalized by the university researchers, readiness experts, community literacy center director, and QAC through a stakeholder-engaged iterative process. This process has been successfully employed in other partnerships³⁷⁻⁴⁰ and is based on the continued sharing and incorporating of ideas and feedback from in-person discussions, and email and telephone correspondence. The final clinic readiness assessment consisted of 6 different question categories that encompassed clinic attributes and characteristics, including clinic resources, attitudes, and leadership, as well as strategic planning, current health literacy practices, and the ability to implement new programs. A 5-point Likert Scale (“strongly agree” to “strongly disagree”) with an additional option of “not applicable” was included for each construct

item. Two additional categories of questions focused on provider communication with patients. A 4-point Likert Scale (“never,” “sometimes,” “usually,” “always”) was used for these items. In all, 60-items were included in the assessment, 52 focusing on clinic resources, motivation, and capacity for change, and 8 on provider communication strategies. Together these questions were used to determine readiness and capacity of clinics to implement the health literacy focused pilot intervention.

Development of Data Collection Instruments and Intervention Protocol

Data collection instruments for the pilot intervention were developed collaboratively and included an initial patient visit questionnaire and a follow-up patient visit questionnaire that were administered verbally with patients. The initial patient visit questionnaire consisted of questions regarding the presence of a translator, or any additional persons with the patient in the exam room, as well as the published single-item literacy screener (SILS), “*How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacy?*”,⁴¹ and 8 questions regarding provider communication strategies employed in the patient’s previous clinic visit. Three additional questions addressed the method by which the patient learned what their main health problems was, what the treatment plan was, and why it was important for them to follow said plan. Specifically, patients were asked if they were given this information unprompted, or if they had to ask the doctor these questions. This segued into the introduction and explanation of the AskMe3™ intervention materials and the use of 3 questions: “*What is my main problem?*”, “*What do I need to do about it?*”, and “*Why is it important for me to do this?*”.^{15,16} Patients were then asked if they felt that the AskMe3™ materials would be helpful in a clinic setting, or any other setting. Questions regarding demographic data, including patient age, sex, race, education level, primary language, and household income closed out the questionnaire.

The follow-up patient visit questionnaire began with the same questions regarding presence of translator or any additional persons in the exam room, and the SILS. Next, patients were asked about communication strategies used by the doctor in their previous clinic visit as well as the method (were they told or did they have to ask) by which they learned of their main health problem, the plan to address it, and the importance of following their plan. Patients were then asked if they had used the AskMe3™ questions or materials in their previous clinic visit, or in any other setting since that visit. The follow-up patient questionnaire ended with a question regarding the impact of AskMe3™ materials on the patient’s communication with

healthcare providers since its introduction in their previous clinic visit. Patients’ responses during this follow-up visit were specific to their experience with the on-site doctor during their initial visit.

Intervention Protocol

Upon arrival to the clinic, the patient was greeted by the office manager at the front desk and guided to an examination room by the clinic nurse. In the examination room, the nurse proceeded with assessment of vital signs and collection of information pertinent to the day’s visit. Following this, the nurse verbally administered the initial patient visit questionnaire and introduced the AskMe3™ intervention materials and questions. The nurse explained that the AskMe3™ questions are aimed to encourage patient involvement in healthcare decision-making and guide clear communication between patient and provider. The nurse then inquired as to its potential usefulness to the patient in this or any other health related setting and collected some demographic data. The patient then met with the doctor for the day’s visit. Upon completion of the visit, the patient left the clinic.

During the follow-up visit to the clinic, the patient was greeted and guided to an examination room. In the examination room, the nurse assessed vital signs and collected information pertinent to the day’s visit. Following this, the nurse verbally administered the follow-up patient visit questionnaire. The patient then met with the doctor for the day’s visit and left the clinic upon completion of the visit. No exclusion criteria were employed for this pilot intervention; the nurse implemented the intervention with patients with whom a second visit would likely be scheduled within the next 4 weeks.

De-identified responses from each visit questionnaire were scanned and emailed securely to the research team who entered the data into IBM SPSS Statistics for Windows, version 26.0 (IBM Corp, Armonk, NY, USA) for descriptive analysis (frequencies/percentages).

Posters demonstrating plain language options for common medical terminology were also placed in clinic break-rooms to encourage the nurse and doctor’s use of plain language when conversing with patients. Both the nurse and doctor were aware of the AskMe3™ materials that patients would receive, and therefore were aware of the 3 questions contained in the materials.

Selection of Implementation Sites

A clinician who co-chaired the QAC identified 2 clinics, 1 transitional care clinic and 1 AccessHealth clinic, within the hospital system for which he served as Chief Medical Informatics Officer, as possible sites for pilot intervention

implementation. The clinic readiness assessment was administered electronically via Qualtrics (Provo, UT)⁴² and completed by the clinic director and 1 care team member at each clinic where the intervention would be piloted. High scores on the constructs of general capacity and motivation demonstrated the pilot clinics' strong dedication to improvement of patient care and the capacity for successful implementation of a health literacy initiative. This commitment proved pivotal to the successful implementation of the pilot intervention. Data from the clinic readiness assessment were analyzed using descriptive statistics (frequencies/percentages). Pilot implementation began in November 2018 and lasted for 32 weeks (ending July 2019).

Preliminary Pilot Data

Eighty-nine patients participated in the initial patient visit questionnaire: 57% were male (43% female); average patient age was 48 years (range 20-79). Patients self-identified as African-American (51%), non-Hispanic White (45%), Hispanic (3%), and Asian (1%), with English as their primary language (100%). Roughly 74% of patients reported receiving a high school diploma or GED. Despite a much smaller sample size for the follow-up visit (n=13), trends were similar across all demographics except sex, with a greater number of women than men attending a follow-up appointment. [Data from the follow-up visits are not presented in this paper.] During the initial patient visit questionnaire, when asked the SILS, 27% of patients replied "never," 30% replied "rarely," 18% replied "sometimes," 20% replied "often," and 5% replied "always." Feedback regarding the use of AskMe3™ demonstrated that 100% of participants found it useful in the clinic setting.

Lessons Learned and Recommendations

While patients found the use of AskMe3™ materials useful, there are limitations of this current initiative. Researchers and clinicians would have benefited from even more regularly scheduled calls to allow for essential feedback and to enhance communication between the research team and clinical partners. Process evaluation highlighted the need for modifications to data collection instruments for the pilot intervention as well as to patient follow-up timelines. Per communication with the nurse implementer, original iterations of patient visit questionnaires were cumbersome for both the nurse and patient to complete due to the length of the questionnaire versus the allotted time for the patient visit. In addition, the nurse expressed feeling uncomfortable inquiring about a patient's education and household income, and as a result would skip certain questions and attempt to complete other questions herself after the patient's appointment was over. Taking this feedback into account, the patient visit questionnaires were shortened and questions

about income were removed. Additionally, the flow of the patient visit questionnaires was reorganized to allow the nurse to transition seamlessly from 1 question to the next without needing to skip items based on patient responses. Regarding patient follow-up visits, with 1 pilot clinic serving as a transitional care clinic, individuals who took part in the first patient visit questionnaire may have been referred to primary care or another specialty clinic and did not take part in the follow-up patient visit questionnaire. As such, modifications regarding follow-up procedures and requirements may have enabled data collection from a greater number of individuals during a second visit. While follow-up procedures were not modifiable during the pilot, data collection instruments were modified as needed. A formal, structured communication timeline may have allowed changes to be implemented earlier, aiding in more streamlined implementation by the nurse. These real-time observations and process evaluations served to direct protocol modifications as well as inform future implementation strategies.

Vetting of intervention protocols and data collection materials is a natural part of the development and implementation process, especially in pilot programs.³⁸⁻⁴⁰ This allows for identification of a streamlined approach without compromising data collection or program evaluation. In this case, feedback from the community literacy center director was essential for ensuring clear wording was used on data collection instruments for patient visits, and input from the clinical healthcare team proved critical in modifying the clinic readiness assessment and pilot intervention protocol.

Based on input and findings from the pilot intervention, future implementation strategies will include onsite, clinic-specific observation to allow for a clearer understanding/mapping of workflow within each unique clinic, checklist forms to monitor implementation, modification to allow for increased patient follow-up, and a structured training for all clinic intervention implementers. As we expand this work to other clinics, we will also consider extended follow-up through telephone calls. Further, assessment of the partnership will occur throughout the project period to ensure that all collaborators' perspectives continue to be considered in the development and implementation of our health literacy work.^{24,25}

Despite limitations, this pilot study and the successful development of a clinical-academic-community partnership allowed for important dialogue that confirmed the need for development of a clinic-based health literacy intervention in our state. Specifically, unified efforts of the groups' members enabled identification of interested, invested, motivated, and capable champions (ie, clinic manager and nurse implementer at the pilot intervention clinics) who were dedicated to the collaborative, as well as iterative development and implementation of the clinic readiness

assessment and the pilot intervention.²⁷ Continued collaboration among partners can inform stakeholder needs and requirements for a scalable, statewide health literacy initiative. We recommend regular evaluation of the partnership and partner roles, intervention protocols, and data collection strategies for sustaining such efforts.^{24,25} Specific steps taken to form and evaluate this partnership and develop and implement clinic-based healthcare interventions may be relevant for other collaborative teams.

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