

An Integrated Approach to Teaching Health Literacy in the Clinical Pharmacy Curriculum

R. William Soller

ABSTRACT. Health literacy is recognized as a national problem in the delivery of health care and associated services. Therefore, an assessment of the UCSF clinical pharmacy curriculum was undertaken to raise awareness about health literacy among faculty and students, and as needed catalyze curricular change. The assessment included a literature review, a detailed review of course syllabi, in-depth interviews with mid-level and senior faculty, an all-school lecture and by-invitation workshop, and expert consultation. Outcomes of this process included, among other things, development of an overarching conceptual framework for health literacy proficiency for health professionals and a strategic approach to moving forward with curricular change and faculty development. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2006 by The Haworth Press, Inc. All rights reserved.]*

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INTRODUCTION

Health literacy is the “degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (1).¹ Low health literacy pervades America, spanning all patient populations and all socio-economic levels. According to the Institute of Medicine, nearly half of all Americans have difficulty understanding and acting on health information (2). That is a staggering 90 million people—50% of whom are rated at the National Adult Literacy Survey Level 1, meaning they find it hard to find information in unfamiliar or complex texts such as newspaper articles, editorials, medicine labels, forms, or charts (2).

The ability to read is a stronger indicator of health status than other variables relating to socio-economic status (3, 4). Chronically ill patients with marginal literacy have less knowledge about the diseases that affect them and their treatment plans, than literate patients (5). People with marginal literacy skills make more medication or treatment errors; are less able to comply with treatments; fail to seek preventive care; and lack the self-empowerment needed to successfully negotiate today’s health care system (5-8).

The importance for health professionals to address health literacy needs of their patients has been emphasized by the Institute of Medicine in *The Quality Chasm Series* (2,9-17). In this series of reports, Institute of Medicine (IOM) launched an overarching vision for the health professions—to be “educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches, and informatics” (12). In amplifying the professional core competencies expected in the future, IOM specified that every health professional should be expected to “provide patient-centered care [meaning to be able to] identify, respect, and care about patients’ differences, values, preferences, and expressed needs; relieve pain and suffering; coordinate continuous care; *listen to, clearly inform, communicate with, and educate patients*; share decision making and management; and continuously advocate disease prevention, wellness, and promotion of healthy lifestyles, including a focus on population health” (12, emphasis supplied).” Thus, patient-centered care encompasses professional attention to health literacy—i.e., the written, oral, and aural components of communication between patients and their health professionals, which in the context of pharmaceutical care spans dispensing, product labeling, pharmacist counseling of patients, and patient educational materials.

On this background, the UCSF Center for Consumer Self Care initiated a review of the UCSF clinical pharmacy curriculum in order to assess the nature, scope, and extent of how health literacy is presented to UCSF pharmacy students. To undertake this project, the Center received support from the Pfizer Clear Health Communication Project.

METHODS

A visiting lectureship program supported by the Pfizer Clear Health Communication Initiative (18) served as the staging platform for refinement of the UCSF School of Pharmacy curriculum to enhance professional skills in meeting health literacy needs of patients and consumers in diverse community settings. The specific objectives of the visiting lectureship were to (1) build awareness, through a campus visit by Dr. Rima Rudd, Senior Lecturer on Society, Human Development, and Health, Harvard School of Public Health, and a widely acknowledged expert in health literacy; (2) catalyze curriculum change, through internal faculty discussions and interactions with Dr. Rudd to further define specific means to expand the current UCSF clinical pharmacy curriculum with a health literacy emphasis, including expansion of the current program on student research projects; and (3) publication of this project in a peer-reviewed journal, as a means to consolidate and share the findings stemming from the lectureship and related activities.

The specific components of the health literacy lectureship project included: (1) a comprehensive literature search on health literacy and pharmacy undertaken by a pharmacy student with a senior faculty member who is an expert in health communications, and review of publications from the Institute of Medicine Health Care Quality Initiative (2, 9-17); (2) a review of the clinical pharmacy curriculum through a detailed review of the syllabi of all courses and interviews by a senior faculty member of 15 senior and mid-level faculty, particularly those involved in courses where health literacy might be taught or be important in the curriculum; (3) a faculty survey of all clinical pharmacy faculty for self-reports of where the faculty felt they were teaching health literacy; (4) a school-wide lecture by Dr. Rudd on the current perspective of the scope of health problems associated with health literacy and the relevance of faculty incorporating the conceptual framework of health literacy into their course syllabi; (5) one-on-one meetings between selected faculty and Dr. Rudd during the day of her visit relating to specific research topics; (6) a by-invitation faculty workshop with Dr. Rudd, designed to develop a suggested framework for addressing health literacy in the school's curricu-

lum (described herein) and involving selected 1 junior-, 3 mid- and 5 senior-level faculty; (7) a Dean's dinner with selected faculty, with Dr. Rudd as the special guest speaker; and (8) a comprehensive report to Pfizer Clear Health Communications on the findings and outcomes of the lectureship and related activities.

The core elements of the included questions about (1) the instruction, "Please complete what course(s) you teach in clinical pharmacy, by year, and what you convey on health literacy and health communications between patient and practitioner to your students;" and (2) the definition of health literacy (1).

Discussion questions for the faculty workshop included (1) What is the best approach to educating prospective health professionals about health literacy? (b) What are the core elements of a health literacy curriculum for prospective health professionals? (3) How does the Pfizer Pharmacist Patient Consultation Program (PPCP) meet or not meet the core curriculum needs on health literacy? (4) What, if any, approaches should be taken to expand use of the Pfizer PPCP by the School of Pharmacy? (5) What elective/s might be offered on health literacy, and what would be the components of such an elective? (6) What might be the scope/nature of 100-hour research projects for 4th year pharmacy students on health literacy? The findings in this paper stem from these discussion questions, although not all of these questions are necessarily answered or presented here.

Dr. Rudd provided valued feedback on our background activities (i.e., literature search, faculty survey) and workshop discussion, which helped frame development of the findings and major outcomes.

FINDINGS

Literature Search

The literature search identified no studies that specifically defined strategic approaches to addressing health literacy in the pharmacy curriculum. While one article issued a call to action, another described a practical approach to raising pharmacy student awareness to medication-related needs of low-literacy patients using a three-step oral interview technique (19, 20). However, the literature is replete with articles in the context of health care practice and patient outcomes, and comprehensive bibliographies are available from IOM and Rudd (2, 21, 22). A recurring theme in this literature is the importance of relationship building and trust as a

means to achieve better outcomes through patients and health care practitioners candidly sharing and receiving advice about disease and medication therapy management. The ability of health professionals to recognize and manage patients with low literacy is a vital skill set in this 2-way process. For example, clues suggesting patients may need extra help include the following: “I will read this at home,” “I forgot my glasses,” aloofness/withdrawal during counseling, handing written materials off to others, incompleteness of registration and other forms (23).

The Faculty Survey

The faculty survey was undertaken to inform the curriculum reviewer and the visiting lecturer about how and when the faculty reported addressing health literacy concerns relating to pharmaceutical care in curriculum. While the survey clearly was useful to raise awareness about health literacy, the curriculum review, and the visiting lectureship, it was also useful to see that many of the faculty were incorporating aspects of health literacy into their lessons and student interactions in the clinic, albeit on an ad hoc basis. Little specific attention to health literacy in the context of patient education emerged as self-reports by the faculty. The literature search, faculty survey, and the curriculum review (below) were helpful in informing the visiting lecturer, Dr. Rudd, as to how to the content of her lecture.

Curriculum Review

The curriculum review revealed a strong clinical pharmacy curriculum with ample opportunities to explore aspects of health literacy in didactic and experiential pharmaceutical care settings. A core finding was the general view that constant attention is needed when teaching students, so as to assess not just what they say in the context of patient counseling on medication therapy management, but also how they say it. Further, at the time of the review, the curriculum presented no elective in health literacy and one 8-hour elective in cultural competency open to students in years 1-4 (24). The curriculum also included (1) several lectures on health literacy and cultural competency, with use for example, of the American Medical Association health literacy video *Low Health Literacy. You Can't Tell by Looking* that showcases patients with limited literacy skills and the problems they have in understanding their medical conditions and medications (25); (2) didactic instruction on communication skills using SOAP (Subjective, Objective, Assessment, and Plan) analysis for patient

assessment; (3) clinical and community pharmacy experiences relating to pharmaceutical care of patients and consumers; and (4) an emphasis on use of patient-level writing skills by students participating in drug information courses and services. Little specific emphasis was placed on the creation and evaluation of patient educational materials and labeling using basic skills in readability and comprehension (26). Further, despite the strong emphasis at UCSF on student research, there was only one student research project identified over the past four years that related specifically to health literacy.

In addition, certain courses emphasized clear health communication among health professionals, particularly as it related to use of the correct pharmaceutical care abbreviations. This is an important aspect of health literacy affecting patient safety, and one that should not be overlooked. At the health professional-to-health professional level the ability to read and act on written information from another health professional could have a significant impact on getting the right medicine to the right patient at the right time and right dosage and duration of use.

Integration of Findings

Based on these baseline considerations and following in-depth discussions with Dr. Rudd, the UCSF Center for Consumer Self Care emerged with a unifying concept, titled health literacy proficiency. Health literacy proficiency for health professionals expresses the full skill set needed by health professionals to create, evaluate, and employ easy-to-read, and easy-to-comprehend health-related materials, and to evaluate, assess, and engage patients in the context of their health literacy level and social environment. Facets of health literacy proficiency are drawn from Pfizer's summary brochure, *Principles for Clear Health Communication* by Doak and Doak and *Teaching Patients With Low Literacy Skills* by Doak, Doak and Root as well as the professional experience of Center faculty in the field of health communication and readability (26, 27). A chief intention of creating this conceptual framework was to help focus discussion by the UCSF clinical pharmacy faculty and to evaluate the faculty responses to the Faculty Survey on Health Literacy in the School of Pharmacy Curriculum.

In brief, components of health literacy proficiency of health professionals defined by this curricular review process are listed in Table 1. In brief, they encompass the range of knowledge and understanding expected of a faculty member in teaching UCSF students about patient-centered care, either in didactic lectures or in pharmaceutical care teach-

TABLE 1. Components of Health Literacy Proficiency of Health Professionals

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- An ability to express the scope and impact of the functional health literacy problem in America;
 - An understanding of the inter-relationship of oral and written communications in patient care;
 - An understanding that reading, writing and comprehension are skills, and how to use these to characterize poor readers;
 - A capacity to achieve a patient-centered perspective in the development of patient education materials, including:
 - Ability to define the specific tasks that are expected of patients, the skills sets that are involved in these tasks, and the processes that define the tasks, as a basis for designing the specific patient educational aids needed to optimize therapeutic outcomes;
 - Sensitivity to the cultural suitability of health care materials;
 - Awareness that age can be a barrier to reading;
 - Understanding the principles for easy-to-read materials, relating to content, style, format, text simplification, and appearance;
 - An understanding of the essential value of using pre-tested patient educational materials, and of the methods for pre-testing materials, including use of focus groups, health communication comprehension studies, readability indices, etc.;
 - An ability to apply in practice approaches to overcoming health literacy barriers, including the ability to assess in a clinical setting the functional health literacy of individual patients, recognize appropriately designed patient educational aids, and assess patient outcomes based on interventions tailored in a health literacy context.
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ing venues (e.g., collaborative care clinics, special student research, or patient education projects, etc.); the need to achieve a perspective patient-centered care in developing and using patient education materials; an ability to incorporate an evidence-based research perspective in evaluating and using patient education materials; and an ability to apply practical approaches to overcoming health literacy barriers in the pharmaceutical care of patients. Each of these foundational points comprising health literacy proficiency for health professionals was elaborated in a detailed background paper for faculty.

Based on this framework for health literacy proficiency for health professionals, a series of consensus points (see Table 2) were developed from the faculty workshop with Dr. Rudd, as a basis for ensuring and expanding a health literacy focus within the clinical pharmacy curricu-

TABLE 2. Faculty Derived Consensus Points for Ensuring and Expanding a Health Literacy Focus Within the Clinical Pharmacy Curriculum

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1. Meeting the health literacy needs of patients and consumers through clear health communications should be a core competency of pharmacy graduates.
 2. Health literacy aspects of pharmaceutical care, including practical applications for students, should be addressed with a coordinated strategic approach across the four-year program.
 3. The strategic approach should be one that builds health literacy-related applications into the existing curriculum, including consideration of workshops for students relating to (a.) basic health literacy skills (i.e., how to assess and write written materials in a health literacy context); (b.) practical patient-centered application of health literacy skills (e.g., through specific exercises, and including research components to the exercises).
 4. The research components relating to student workshops (point 3) involving practical applications of health literacy skills should be developed into a data set from which hypothesis-generating activities can lead to applications for further research funding.
 5. Activities relating to the written, oral and aural aspects of health literacy should be integrated and taught together at key loci in the curriculum (e.g., SOAP analysis, drug information analysis and service, clinical experiences involving pharmacist-patient counseling, and pharmacist-to-health professional interactions).
 6. A health literacy residency should be considered as a means to further develop awareness to health literacy within the School, expand the refinement of the curriculum, and engage in health literacy research related to pharmacy.
 7. *Teaching Patients with Low Literacy Skills* and the *Pfizer Principles of Clear Health Communications* should be evaluated in the context of developing pharmacists' skills of clear patient communication (26, 27).
 8. Active consideration should be given to facilitating how the faculty is made aware of emergent practical approaches to teaching health literacy in the curriculum.
 9. A core group of faculty should be organized to maintain a focus on integrating health literacy across the curriculum.
 10. Outcomes research on curriculum change should be undertaken, including: using the faculty health literacy survey as a baseline; repeating the survey with more specificity to assess ways in which faculty have incorporated practical approaches to health literacy into the curriculum; documenting research projects undertaken on health literacy; establishment of residency programs; etc.
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lum. In brief, these consensus points establish an overarching goal of having pharmacy graduates skilled in meeting health literacy needs of patients and consumers, and set forth a strategic approach to achieving this goal. Since health literacy is integral to many different aspects of

the pharmacy curriculum and therefore did not opt for a special course or set of courses focusing only on health literacy per se. Also, various student activities with patients that can be undertaken to teach health literacy can be blended into research approaches that develop hypotheses for future research. Finally, establishment of a core faculty is recommended as a means to ensure sustainability of the conceptual priority of patient-centered care through application of a skill set in health literacy.

DISCUSSION

Clear health communication is the catalyst to achieving effective patient-centered care. As such, health literacy is a core component of patient-centered care, as is cultural competency. Since health communication is vital to many courses throughout the clinical pharmacy curriculum, it is reasonable to take an integrative approach to health literacy where the expected outcomes of student learning relate to ensuring patients are able to “obtain, process, and understand basic health information and services needed to make appropriate health decisions,” i.e., to achieve higher levels of health literacy (1).

Success of an integrative approach to teaching health literacy in the clinical pharmacy curriculum requires individual faculty to take initiatives to create and adopt evaluative exercises in their classes where oral, aural, and written interactive communications are taught. Further, by elaborating a core skill set for health literacy proficiency for health professionals, faculty with interest in this area can self-evaluate their own development in teaching and research.

In this regard, several specific activities have already been undertaken since completion of this foundational project. These include development of a research platform relating to health literacy needs of seniors in understanding the selection and use of their medicines; a new elective on patient-centered care using community dwelling seniors, which encompasses specific exercises relating to health literacy and senior care competency, and will serve as a proving ground for possible applications and refinements of other courses across the curriculum; and a teaching-public service project involving UCSF students with the California State Board of Pharmacy on the development of *Consumer Fact Sheets*, using a clear health communication perspective in the development of consumer education materials.

Several limitations should be emphasized. First, reasonable caution should be exercised in translating the findings from one pharmacy school

environment directly to another. The approach taken here is presented as a starting point for faculty at other schools who are interested in ensuring pharmacy students are given an awareness of health literacy as a facet of pharmaceutical care. The findings cannot necessarily be generalized to other schools, yet elements of the approach that is presented offer a conceptual basis for tailoring the foundation for an integrated program approach to health literacy in other schools. Further, while activities in other mainstream health professional schools were assessed, this was not done systematically. This is an area of possible future work.

CONCLUSION

Overall, the experience in evaluating the UCSF clinical pharmacy curriculum through the Pfizer Clear Health Communication Visiting Lecturer award was considered a valuable process to further heighten awareness among faculty and students about health literacy. It served to develop a foundation for faculty to further develop their teaching skills and research interests, and has led to curriculum improvements.

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NOTE

1. Generally speaking, individuals who have low literacy levels will also rate low on health literacy assessments. However, a person who is highly literate may not have a high health literacy if they do not understand and are not able to act on health information, much in the same way a person can have high literacy but low legal literacy—a term contrived here to make the point.

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