

MEDICAL INFORMATION NEEDS AND FRUSTRATIONS IN A RURAL COMMUNITY

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INTRODUCTION

For health care professionals and citizens in small communities, limited resources pose challenges in obtaining needed health and medical information. This concern prompted the director of American Fork Public Library to ask library science students to undertake an information needs assessment. The goal of the investigation was to identify the information needs and problems of health care professionals, their perceptions of the medical related information needs of their patients, and their opinions of the role of the public library in addressing these needs. This study was to provide information to assist the public library in making decisions about related services and collections; however, as the data were gathered, the research team recognized that the findings would be of interest to medical librarians.

THE COMMUNITY

American Fork, Utah, is a rural community of about 16,000 residents. This community's agrarian economy is augmented by approximately 340 small business enterprises: hair/styling salons, restaurants, legal services, automotive garages, bakeries, accountants, and other retail businesses. The town's educational system consists of six elementary schools, one junior high school, and one senior high school. Approximately 28 physicians, 16 dentists, and 3 orthodontists practice in this community. Intermountain Health Care manages the American Fork Hospital, which is a 53-bed hospital with a staff of approximately 230 personnel, mostly nurses. The hospital maintains a small medical library with one full-time professional, which networks with

other Intermountain Health Care facilities in order to serve health care professionals.

LITERATURE REVIEW

Although most information needs assessments of the medical community have focused on medical researchers, educators, and students, several research studies have identified the information-seeking habits of practicing physicians. Practicing physicians generally prefer informal channels. They frequently need information about diagnostics, drugs, treatment, and management protocols. Most clinicians want "practical as opposed to abstract knowledge in relation to skill performance" (Gruppen, 1990, p. 165). In another study, practicing physicians were more interested in resolving immediate patient care problems by discussing matters with professional peers. These physicians tended not to use references from journals, textbooks, or other informational sources for problem solving (Leist, 1990, p. 173). In spite of the onslaught of medical journals, physicians who work in hospitals give most of their time and talent to developing diagnostic solutions with colleagues as opposed to studying monographs. Statistics indicate that U.S. physicians spend 200 hours per year discussing matters with colleagues, and talk more than 50 hours annually to pharmaceutical representatives (Lundberg, 1992, p. 110). The tendency towards under utilization of biomedical literature by practicing physicians for problem solving continues to be "reported and lamented" (Florance, 1992, p. 140).

In a study that identified the 26 highest ranked problems and frustrations faced in medical practice, 2,745 physicians listed government regulation, paperwork, concern for malpractice, third-party payers, regulatory agencies, and cost containment for patient benefit as the six most significant problems (Manning, 1990, p. 161).

In one study of 363 registered nurses, 67% indicated they needed more information on patient care, and 71% more often consulted with another person for patient care information. Most information requests by nurses were related to management issues (Bunyan, 1991, p. 223). In a survey of 90 practicing pharmacists, the highest used information resources were annu-

ally updated pharmacy references, followed by journals, books, and colleagues. Seventy-two percent used computer searching. However, computerized literature searching played a secondary or tertiary role in meeting information needs (Ikeda, 1992, p. 124).

Bibliographic Databases

Research suggests that the medical community rarely uses the vast medical databases such as *Index Medicus* and *Excerpta Medica* (Elayyan, 1988, p. 247). Woolf and Benson noted five separate studies that reported alarming rates of under-use of medical databases. Of the available clinical computer applications, 51% had been abandoned or suspended and only 19% were in routine use. Computer systems are used primarily for word processing and data management, but only rarely to support clinical decision making (Woolf & Benson, 1989, p.372).

At the 1991 Medical Library Association Conference, editors of *Journal of American Medical Association* and the *British Medical Journal* projected that medical professionals will continue to rely on printed periodicals. The CD-ROMs and other electronic formats will supplement, but not replace, traditional sources (Hoffman, 1991, p. 592). Many physicians are either unaware of or feel uncomfortable with online database searching and other information technologies.

Illness Versus Wellness

In disease prevention, family physicians and the general populace regard patient education as very important. Most responses to a questionnaire sent to 2,258 members of the American Academy of Family Physicians Foundation (AAFP/F), indicated the need for more health promotion in family practice (Gibson, 1991, p. 357). Another study reported that wellness rather than illness topics are an important aspect of medical information if health care is to continue to be a positive tool in preventing illness. In a New Zealand town with a population of 137,495, most inquiries at the public library focused on wellness, fitness, exercise, and a healthier lifestyle. These queries indicate a trend towards greater self-reliance in health care (Harris, 1992, p. 3).

DATA-GATHERING PROCEDURES

For the purposes of this present study, health care professionals were categorized as doctors, nurses, dentists, orthodontists, pharmacists, and a hospital medical librarian. Three techniques — a focus group, an oral interview, and a questionnaire — were employed to gather data from the medical community. This research was not operational and not quantitative. Convenience of the respondents determined what methods to employ.

Data gathering in a focus group was conducted during a monthly hospital staff meeting, with 21 doctors and hospital medical staff participating. In a focus group, people with common interests discuss a service or product so that attitudes, perceptions, and language can be analyzed (Burroughs, 1989, p. 5). The focus group technique was chosen because it allows a carefully planned discussion designed to obtain perceptions of doctors and hospital medical staff (see Focus Group Questioning Route in Appendix A). An oral interview was held with the hospital library director, who was unable to attend the focus group. His responses were included in the analysis of the focus group discussion.

Questionnaires were designed to obtain information from nurses, dentists, orthodontists, optometrists, and pharmacists. Questionnaires were distributed to 12 clinical or hospital nurses, and to 25 other health care professionals who worked outside the American Fork Hospital. Fifteen questionnaires were completed and returned: six from nurses, two from dentists, one from an orthodontist, two from optometrists, and four from pharmacists.

FINDINGS

The following findings focus on four areas: a) information needs of health care professionals, b) primary sources of information, c) attitude toward the public library, and d) information needs of patients.

Information Needs of Health Care Professionals

Health care professionals' primary information need concerned medications. Most information desired about medications dealt with new drugs

and new drug therapies. Secondary information needs pertained to new medical techniques and advances. Specifically, they needed information about advances in periodontal surgery, refractive surgery, laser surgery, and they wanted long term studies evaluating the advancements in these types of surgery. At least one health care professional reported each of the following information needs: locating American names for foreign drugs, using computers in business management, researching chronic fatigue syndrome, and investigating an unusual neurological symptom relating to vision.

Nurses primarily needed information about new medications and new techniques or advances in drug prescription nursing care. Specifically, information was desired about new procedures for the operating room. Advances in medical care also concerned the nurses. At least one nurse reported the following information needs: AIDS, preventive health issues, medical legal issues, health care management, national health insurance, and delivery room protocols.

The information needs of health care professionals were often based upon frustrations or problems which arose in their practices. Respondents reported three dominant areas of frustration: a) staff/personnel, b) government regulations, and c) communication. Staffing difficulties ranged from staff turnover to staff training.

Survey and focus group respondents identified their frustration with government regulations. A health care professional, during focus group discussions, summarized the feelings of the group when he said, "We are all frustrated with the government telling us how medicine should run, and especially when it seems to go counter to what we have chosen as the best way to practice it." Other doctors nonverbally affirmed that government intervention was a primary frustration.

Communication problems were twofold. First, respondents complained about interprofessional communication; that is, a lack of communication between health care professionals and lack of access to health care professionals after office hours. Specifically, pharmacists noted difficulty in communicating with doctors after hours.

Second, communication barriers exist between health care professionals and their patients. One survey respondent expressed frustration with patients who negated the importance of communicating with their health care professionals, "They [the patients] don't tell us things we ought to know." One health care professional from the focus group complained about patients who diagnose themselves. He stated that patients read "just enough to get themselves in trouble." Several doctors nodded in agreement.

Health care professionals indicated frustrations with the business facet of their practices. Respondents from the focus group complained about hospital administration and compensation. One respondent said, "Too much work and not enough money."

Health care professionals in the survey listed several frustrations with business management: fee collection, accounts receivable, IRS, third-party insurance reimbursement, marketing, cost of online services, and cost of articles retrieved from online services.

Nurses identified staffing difficulties, primarily staffing shortages, as their main frustration. Other problems included occupational stress, lack of public awareness, financial aid for the needy and elderly, general care for families with elderly, evaluation of new products, lack of patient compliance, and patient family dilemmas.

Primary Sources of Information

The survey revealed that when seeking medical information, most of the nurses, dentists, optometrists, orthodontists, and pharmacists preferred verbal communication with colleagues (73%), and attending professional symposia (73%) as information gathering methods of high interest (see Table 1). Reading professional journals was a less significant means for acquiring medical information; however, 53% of all respondents did express high interest in reading journals, but only 13% expressed high interest in reading textbooks. Finally, 12 of the 15 (80%) of the respondents expressed no interest in obtaining information from computer services.

All medical professionals who were asked to identify medical information sources they used frequently identified 23 information sources (see

Table 2). Only two titles were cited by more than one respondent. Four pharmacists said they had utilized *Facts and Comparisons* to located medical information and two dentists mentioned *Dental Management*. For the most part, health care professionals use sources tied directly to their medical speciality and are not unified in their title preferences.

Attitude Toward the Public Library

None of the survey respondents indicated they used the public library to meet their information needs, and the survey did not investigate attitudes toward the public library. However, during the focus group discussions those attitudes were disclosed.

These 21 medical professionals thought the public library should not attempt to meet their specialized information needs but should focus on providing medical and health information for children and adult laypersons. One physician commented that he would take his children to the public library for information related to school assignments, but would not use the library himself. Several doctors agreed that public libraries were primarily for young people pursuing homework or personal interests.

As the group discussed the medical and health related information needs of their patients, they acknowledged that the public library could be a useful resource for adults. Verbal and nonverbal responses indicated that six to eight physicians had not previously considered the public library as an information source for patients. Some physicians, however, were cautious about providing too much information for patients; one physician asserted that patients who read about illnesses tend to self-diagnose and may not follow doctors' instructions.

Information Needs of Patients

Through the survey, 15 respondents – six nurses and nine other health care professionals – identified four frequent information needs of patients: a) drug dosage and side effects, b) codependency, c) parenting and child care, and d) information related to doctors' specific recommendations. Nurses and pharmacists noted that patients sometimes did not understand the medical information or instruction they were given. The less frequently

mentioned patient information needs were: a) diet and nutrition counseling, b) drug counseling, and c) childbirth.

During the focus group, physicians identified 11 topics about which patients frequently request information, which are: a) cholesterol results and interpretation of cholesterol numbers, b) pediatrics and health care, c) Epstein Barr virus, d) osteoporosis, e) drug reactions and side effects, f) national health insurance, g) preventive medicine, h) AIDS, "one of the hottest" issues, i) new immunizations, j) new surgical techniques, such as laser surgery and laparoscopy, and k) careers in medicine. In an interview following the focus group discussion, the hospital library director identified six additional topics of interest to patients: a) cancer, b) teenage pregnancy, c) smoking and its effects, d) cornea transplants, e) gall bladder surgery, and f) the new male birth control pill from France. The only topic listed or mentioned by both the survey participants and focus group members was drug side effects.

A classification of patient information needs revealed that 12 topics could be categorized as illness issues, four as wellness/quality of life issues, six as a combination of illness and wellness/quality of life issues, and one as a vocational issue. Table 3 reports the topics by category.

DISCUSSION

Findings show that although health care professionals differed in their specific information needs, they were homogenous in the types of information needed. These health care professionals mainly needed current information about new medications, new techniques/advances, and new procedures/treatments in their specialities. Their information needs concur with previous research about physicians' information needs (Gruppen, 1990). Although a prior study indicates that nurses mainly need information on patient care (Hoffman, 1991), the nurses in this study primarily needed information about new medications and new techniques/advancements in their field.

Several health care professionals expressed frustrations or problems with the business management aspect of their practices, but they did not view or identify them as information needs. A prior study supports these

findings (Woolf & Benson, 1989). Although the nurses reported staffing shortages as their main frustration, they neglected to realize their other inherent information needs. The majority of those frustrations were patient oriented. Surprisingly, only one of the nurses indicated stress as a frustration, even though stress underlies an array of nursing issues associated with management: workload, staffing and domestic cares. In contrast with a former study, the nurses viewed management issues as a frustration rather than as an information need (Bunyan, 1991).

As with prior studies (Elayyan, 1988; Woolf & Benson, 1989; Hoffman, 1991), technical medical information databases were not integral parts of the treatment and diagnosis process among medical practitioners in this study. Health care professionals avoided using computer services and preferred printed information. Continued improvements in the methods of computer searching, classification, indexing, and user friendliness are clearly warranted. Instead of depending on automation, medical personnel tended to rely heavily on colleagues and on personal library collections as primary sources of information. The advantages of these informal information sources seem to be proximity, accessibility, and convenience.

Although they did not believe the public library could meet their own specialized information needs, the health care professionals willingly identified the medical and health related information needs of patients. Their interactions with patients gave them valuable insights into information needs of patients, and the physicians adeptly identified frequently requested medical and health topics. In addition to providing useful information for making decisions concerning library services, the needs assessment also raised awareness among the medical community of the role of the public library.

The generally positive, cooperative responses of the doctors wavered only one critical point, i.e., easy access to information for patients. Some physicians seemed reluctant for patients to have too much information, asserting that self-diagnosis is dangerous. The assumption that information will cause patients to self-diagnose is probably based on a few negative experiences and not on logic or research.

Although a prior study suggested greater need for wellness information in the public library (Harris, 1992), in identifying the information needs of patients, the respondents emphasized illness issues. This tendency could be explained by the fact that they generally serve ill patients.

CONCLUSIONS

Few user studies determining the information-seeking needs of practicing nurses, pharmacists, and other health care professionals have been published. The present inadequate knowledge about their information needs makes the subject clearly one for more research. Current information about new medications, new technologies, and new advancements in medicine were the primary information needs of health care professionals in this study. Medical librarians can play a key role in helping health care professionals access current information by making practitioners aware of pertinent medical databases and document delivery services.

Many of the health care professionals indicated frustrations with the business aspects of their practices. Health care professionals should be informed about using their public libraries for information relating to the business facets of their practices. Medical librarians may want to develop collections devoted to business information.

Some of the nurses' patient-care frustrations transcended the realms of their positions: financial aid for the needy and the elderly, and lack of public awareness of health care costs. Possibly, hospital librarians could work together with hospital administrators and directors of nursing to design and develop programs to promote public awareness of health care costs, and to raise funds for the needy and the elderly. Hospital librarians may want to seek assistance from public library directors, who could aid in promoting these programs.

Increase Online Medical Database Use

The goal of future online medical bibliographic databases should be to provide the right information to the right health care professional, in the right format, at the right time, and at his or her work station.

Specific studies should be conducted to determine how to mainstream medical professionals into database technology. These studies should both analyze medical users' automation needs and determine the ramifications of specific medical computer applications. To accomplish these objectives, it is recommended that the following developmental model be implemented:

1. Determine the research sequence that medical professionals employ in manual bibliographic searches;
2. Design medical databases that implement the familiar research sequence into an automated format;
3. Test and evaluate the format according to user friendliness, accuracy, and timeliness; and
4. Continue revising databases to meet medical users' needs.

The Public Library as an Information Source

The best environment in which to apprise medical professionals of the informational resources available to their patients in public libraries may be during preservice medical educations. Professors and medical librarians may be in the best position to instruct medical students about the role of the public library in providing medical and consumer health information to the general populace. The distinction between providing medical information versus medical advice in public libraries could be explained and physicians could be reassured that librarians are not practicing medicine.

THOUGHTS FOR FURTHER STUDY

As we move toward the 21st Century, medical and health information will become increasingly important to both medical professionals and the general populace. Practicing physicians and other health care professionals will likely continue to need information concerning diagnoses, new medications, and new techniques and advancements. The traditional information seeking approach of consultation with colleagues will and should continue; however, a new century of medical practice should see health care professionals adding the use of electronic data to information seeking.

Full text electronic systems will allow professionals — even in solo practices — access to timely, specialized information.

No doubt interest in health care issues among the general populace will place increasingly large demands upon health care providers. The medical community will need public libraries and librarians as allies in providing health and medical information. Before this alliance is formed, both the medical community and the librarians should acknowledge and respect one another's roles in information provision.

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Table 1

PREFERRED METHODS FOR OBTAINING INFORMATION						
	Nurses N=6		Other Medical Professionals N=9		Combined Frequency N=15	
	INTEREST LEVEL					
PREFERRED METHODS	High	Low	High	Low	High	Low
Contact with Colleagues	83%	0%	67%	11%	73%	7%
Reading Journals	5%	0%	56%	0%	53%	0%
Attending Professional Meetings, Seminars, and Symposia	83%	0%	67%	11%	73%	7%
Reading Textbooks	0%	0%	22%	0%	13%	0%
Computer Services	17%	67%	22%	89%	20%	80%

Table 2

PREFERRED SOURCES FOR OBTAINING INFORMATION

Medical Professionals	Preferred Medical Information Sources
Nurses	American Journal of Nursing Association of Operating Room Nurses Journal High Risk Nursing Management J.B.J.S – Bibliography of Orthopedica N A A C O G Newsletter Nursing Management RN '90
Dentists	American Dental Association Journal American Dental Association Newsletter Clinical Research Associate Newsletter Dental Management
Optometrists	Clinical Ophthalmology Journal of the American Optometrists Association
Orthodontists	American Journal of Orthodontists Dental Management Dento Facilia Orthopedics Journal of Clinical Orthodontics
Pharmacists	American Hospital Formulary Service Facts and Comparisons Handbook of Nonprescription Drugs Mediphor Drug Interaction Facts Pharmacological Basis of Therapeutics Physicians' Desk Reference

Table 3

PATIENTS' INFORMATION NEEDS BY CATEGORIES

Illness Issues	Wellness/Quality of Life Issues
AIDS	New Immunizations
Cancer	Parenting/child care
Cholesterol results	Preventive medicine
Co-dependency	Male birth control pill
Cornea transplants	
Drug dosage and side effects	
Drug counseling	
Epstein Barr Virus	
Gall bladder surgery	
Osteoporosis	
New surgical techniques	
Smoking and its effects	
Combined Illness/Wellness Issues	Vocational Issues
Child birth	Medical careers
Teen pregnancy	
Pediatrics	
Diet/nutrition counseling	
Doctors' recommendations	
National health insurance	

Appendix A

FOCUS GROUP QUESTIONING ROUTE

1. Tell us about the last time you needed information for your practice. What was the topic, and where did you get the information?
2. What information requests do you most frequently get from your patients?
3. What are some frequent problems or frustrations that arise in the management of health care practices?
4. How do you stay current with new medical information?
5. What books, journals, or other information sources do you find most useful in helping you do your job better?
6. What are the best ways for a library to inform you about new information sources and services? How would you prefer to be informed?
7. Do you have any additional comments that you would like to add at this time?

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