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# Reference librarians' perceptions of the issues they face as academic health information professionals

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**Background:** Leaders in the profession encourage academic health sciences librarians to assume new roles as part of the growth process for remaining vital professionals. Have librarians embraced these new roles?

**Objectives:** This research sought to examine from the reference librarians' viewpoints how their roles have changed over the past ten years and what the challenges these changes present as viewed by both the librarians and library directors.

**Method:** A series of eight focus groups was conducted with reference librarians from private and public academic health sciences libraries. Directors of these libraries were interviewed separately.

**Results:** Reference librarians' activities have largely confirmed the role changes anticipated by their leaders. They are teaching more, engaging in outreach through liaison initiatives, and designing Web pages, in addition to providing traditional reference duties. Librarians offer insights into unanticipated issues encountered in each of these areas and offer some creative solutions. Directors discuss the issues from their unique perspective.

**Conclusion:** Librarians have identified areas for focusing efforts in lifelong learning. Adult learning theory, specialized databases and resources needed by researchers, ever-evolving technology, and promotion and evaluation of the library are areas needing attention. Implications for library education and continuing professional development are presented.

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## INTRODUCTION

To ensure that health information professionals remain vital in today's rapidly changing environment, they must continually reposition themselves to thrive in their new surroundings. Leaders in the medical librarianship profession have consistently supported the profession's members in examining and articulating new roles to perform to remain relevant and best serve patrons' information needs.

Health sciences librarians working in the reference department have been offered many opportunities to expand their roles, including teaching in the curriculum in health professional schools [1], taking the library to the user's point of need [2], developing evidence-based medicine skills necessary for filtering and synthesizing the literature [3], becoming key players in the continuing education field [4], providing con-

sumer health education [5], designing and managing electronic information systems [6], expanding the liaison's role [7], and providing outreach services to underserved professionals [8], in addition to the more traditional roles of providing reference services.

While librarians have been urged to expand their roles, little feedback has been garnered from librarians regarding their experiences in attempting to fulfill these new roles.

This paper asks and answers the following questions: Are reference librarians—with all the demands on their time and expertise—actually incorporating these new roles into their workday? If yes, what challenges have they encountered? What solutions to these challenges have they devised? What larger issues need to be resolved before these innovative ideas can be fully translated into practice?

## METHODOLOGY

The focus group method was chosen for its strength in exploring issues of importance to participants using their own vocabulary. Rather than forcing preconceived issues on participants, focus groups allow ideas to expand in new and often unexpected directions [9]. Interaction among group members is seen as a way of leading to revelations and opinions that might not have been considered in more controlled approaches such as written questionnaires or individual interviews [10]. Because members of a focus group are not selected randomly, the results cannot strictly be generalized to a population. However data collected from four or five focus groups can be viewed as representative of the perceptions shared by the individuals they represent [11].

During the time period of April to October 2002, the investigator explored the roles academic health sciences reference librarians currently performed and the issues they perceived surrounding these roles by conducting focus group interviews of reference librarians from four publicly supported and four privately supported academic health sciences libraries. Both privately and publicly funded libraries were chosen to determine if there were any significant differences between these two types of libraries. A convenience sample was used; all of the private libraries were in the Midwest, while three of the public libraries were also in the Midwest and one was in New England.

In addition to discussing their current roles, librarians were asked to reflect upon the changes they have experienced over the past five to ten years and the ways they have coped with these changes. Measurement of their new or expanded activities as well as desired future professional growth were topics of discussion. The questions used were developed in consultation with reference librarians from the investigator's home institution during an initial pilot study and can be found in the appendix. The library directors from the same eight libraries were interviewed separately and were asked to reflect upon changes they have observed and directed in reference during the past five to ten years.

Approval of the study from the investigator's institutional review board (IRB) was sought and granted. Participants were assured of anonymity as no institution or individual participating would be identified.

At each interview, the researcher audiotaped the conversations. To ensure that no thoughts would be lost due to mechanical failure, a note-taker was also present to record key issues on a flipchart. After each interview, the investigator reviewed the audiotapes and categorized the ideas presented. These notes were then compared to the handwritten ones, compiled, and entered into an Excel database where each theme was recorded along with the number of times it was cited. As part of the IRB approval, tapes and notes were destroyed at the conclusion of the study.

The average time spent interviewing reference librarians in the focus groups, which varied in size from

three to eight librarians, was ninety minutes. A total of forty-seven reference librarians were interviewed in the focus groups. The experience of these librarians ranged from four days to thirty years, with an average of eleven years.

The average time spent interviewing the eight directors was forty-five minutes. The experience of the directors ranged from twelve to thirty-five years, with an average of twenty-five years of professional experience in academic health sciences libraries.

## RESULTS

As the practicing reference librarians and the directors described their activities, they consistently reflected the expectations of library leaders for role change as depicted in the library literature. Librarians reported that they were teaching more, leaving the library to serve patrons at their point of need, designing Web pages, developing liaison programs, providing consumers with health information, and engaging in many creative activities.

Of all the activities described by the librarians, teaching was the one mentioned by all groups as an expanded activity and as one that had changed the most. This teaching, as defined by librarians, included curriculum-based classroom instruction, one-on-one instruction at the point of need, consultation, specialized classes requested by disparate groups, and online tutorials. This teaching, moreover, was defined as different from the teaching of the past. Librarians saw teaching as being more integrated into the curriculum and into outreach and liaison activities.

The second most mentioned role by librarians was outreach. The majority of the librarians stressed the fact that "we make house calls." The willingness of the librarians to leave the library to go to their patrons' offices, points of care, or classrooms was a consistent refrain in the focus groups. Often these outreach functions were performed by librarians acting as liaisons to departments or colleges. This too was seen as a major change in the work done by librarians over the past decade.

Although librarians confessed to continued frustration with technology gone awry, they were quite aware of the promise that technology, and, by extension, the Internet, offered. The third most mentioned activity engaged in by librarians was that of configuring an electronic library to meet the needs of patrons through Web page design. Librarians strived to meet their patrons' needs by developing Web pages to facilitate patrons' finding the resources they needed as easily as possible. Librarians recognized that patrons increasingly searched the Web to find information, including library information, and they sought to understand how patrons searched for that information. Librarians then built their Web pages, or "front doors," in an organized fashion to facilitate this searching behavior. Again, this was viewed as another major change from their roles in the past.

Answering reference question was mentioned in the

focus groups, but often as an afterthought. While all the librarians reported that they answered questions posed by patrons electronically, through email or Web-based interfaces, working the reference desk was given less prominence when professional duties were discussed. Many librarians reported that they used paraprofessionals to staff the traditional reference desk, with librarians doing the more complex duties mentioned above. At the time of the interviews, none of the libraries had yet employed a Web-based "chat" service.

On the whole, responses from librarians working in private institutions did not differ significantly from those working in publicly supported institutions. Outreach to the community at large with an emphasis on consumer education was more of an issue for state-supported libraries, but most of the private libraries supported consumer education to some degree. Because the public institutions tended to be larger and serve more professional schools, their libraries were apt to use liaisons to the various clinics and colleges more extensively, but similar issues were reported at both types of libraries.

## DISCUSSION

All of the major themes regarding role changes reported in the focus groups are explored in greater detail using quotes from the librarians. Common concerns not anticipated by the researcher but repeatedly expressed by the librarians and their directors are also discussed.

### Teaching

Librarians reported that not only was teaching currently one of their main activities, but it also was the one activity that had undergone the most change during the past five to ten years. While quite comfortable in this role, librarians, nevertheless, presented a number of concerns that have implications for academic training and for continuing education programs for librarians.

**"Librarians have to become educators. I don't think they always were."** Although they certainly were teaching, most librarians reported they were never fully prepared for this role. They seldom received any grounding in adult learning theory and teaching techniques. They expressed a need for a conceptual framework of adult learning theory to devise a learning continuum for students and faculty as they progressed in their knowledge, as well as practical tips for improving their teaching in general, such as devising goals for classes, delivering content, and appraising results.

**"Keeping up with the blur."** While many librarians experienced stress as the number of databases and resources they needed to know rapidly increased, they coped well with learning the new products their institutions purchased. However, almost all expressed a need to better understand the National Center for Bio-

technology Information (NCBI) databases dealing with genomes, nucleotides, and genetics in general. Homan and McGowan [12] noted this challenge facing librarians who need to become proficient in searching all of the special databases offered by National Library of Medicine (NLM), and it is by no means resolved.

One creative solution reported by one library solved the issue of these difficult databases and enhanced the image of the library. The librarians sponsored a yearly campuswide symposium featuring the NCBI databases taught by an expert searcher invited from NCBI. By advertising this opportunity to scientists a year in advance and incorporating it into the science curriculum, the library was able to attract over 200 researchers to the sessions. This approach's success illustrated the librarians' awareness of the need for subject specialists working in these very specialized areas and offered a concrete example of one solution that other institutions can employ.

**"Some of the searches we see are really amazingly poorly constructed."** The teaching of MEDLINE and the primary literature presented another challenge for librarians. In many libraries in the past, MEDLINE training was required for patrons to receive a password. With free access and an easier interface, MEDLINE classes were no longer well attended by patrons, nor were they even widely offered, having been replaced by classes in newer and sometimes more complicated resources. Consequently, librarians observed that the caliber of patrons' searches was often very poor as indicated by the following statements: "My concern is that sometimes peoples' level of confidence with online systems is higher than their competence." "You do it all wrong, and you don't know you've done it wrong." "They go forward with no fear at all, but not very high level of skill." Librarians expressed a need to devise ways to continue teaching MEDLINE search strategies but to present it in ways acceptable to patrons who did not see a need for this instruction.

**"Are we pushing dinosaurs here?"** In addition to poor searches done by patrons, librarians noted that students were increasingly uninterested in the primary literature, however poorly they searched it. Librarians perceived that students want predigested information such as that offered by UpToDate, a tool designed for clinicians to answer the clinical questions that arise in daily practice, rather than reading the primary literature. Librarians were concerned that students did not differentiate between the resources appropriate to students, clinicians, or researchers as evidenced by their observations, "They just want answers to questions. They don't want to sit and look at abstracts of articles, choosing resources."

### Outreach

The call for "extending the notion of the library 'without walls' and taking the librarians and library service to the user's worksite" articulated more than ten years

ago [13] was reported as a now commonly accepted practice by all of the focus groups.

**"We make house calls."** Librarians universally reported that they were leaving the library and meeting patrons where they work, do research, or teach. They noted that in the past, "we expected patrons to come to us; now we have to go to them, wherever that is, whatever means that might be: physical, electronic, to the desktop. We have to take the initiative to go to them. We have to anticipate their information needs." For librarians, this included leaving the immediate grounds where the library is located and visiting affiliated hospital and clinics. The philosophy of outreach did not appear to be a source of conflict for librarians, but outreach to the clinical area has limits.

Bringing filtered and synthesized information and resources to point of care, in terms of the informationist concept [14], was an area where librarians voiced the need for more formal training. Many institutions were attempting to become more active in evidence-based health care initiatives, but their practice was usually confined to only one or two departments, such as general surgery or pediatrics. Even there, the role of the librarian was often passive or limited to searching and supplying information from the primary literature with little synthesis provided. Librarians cited a shortage of staff and time and, especially, their own lack of preparation for this role as obstacles to fuller participation.

**"I think another group we need to reach out to are the researchers because they're the people who bring in the money."** Although providing filtered and synthesized information to clinicians at point of care had not been fully resolved, the topic of the librarians' role as informationist was at least being widely discussed [15]. The issues encountered in providing information to researchers, however, was an area where some librarians would like to see more attention directed. Many felt inadequately prepared in this area of specialization. "One of the things I think we're lacking in, and it's part of expertise, is in, for example, some of these genomic databases." "They talk about searching protein sequences; I don't really understand quite all of that." Two related issues interfered with this goal of adequately supporting the information needs of researchers: librarians often did not have a background in research methodology themselves and were not comfortable in this area, and most librarians interviewed were generalists who perceived a need for a specialist to communicate effectively with researchers.

### Using technology

Librarians viewed technology as both a promise and a problem. While acknowledging the promise that the use of computers can bring, the librarians must first resolve many of the same technological frustrations their patrons shared. They voiced their frustrations with both humor and insight describing their relationship with computers, "they [computers] snuck their lit-

tle selves in here and the Internet arrived and all of a sudden we were expected to know how all this stuff worked. For people of my generation . . . this has been a real challenge."

**"We're a different generation than our users."** The issue of the generation gap between librarians trained in more traditional methods and patrons raised in the Internet era was mentioned repeatedly. This gap was never offered as an excuse not to learn but as an acknowledgment of an area where tremendous learning and coping continued to occur; "We're always running but really standing in place." "We need to be aware of what's going on in the world of technology." The librarians showed a desire to better understand the many facets of technology now present in the library.

**"We have technical people that don't really talk."** In addition to resolving technological issues themselves, librarians often found themselves trying to act as mediators between patrons and information technology (IT) people but felt hampered by a knowledge gap. Once again, librarians found themselves serving as intermediaries, not between library information and the patron as is traditionally the case, but between the technology people and the patrons. And, in so doing, they needed to learn and understand more technology.

**"We need a class in: Is this an Elsevier title or not, and can it go through the proxy server?"** Daily maintenance problems can be mundane but were experienced as very real and time consuming. Troubleshooting mechanical problems continued to be a constant but necessary chore. As one librarian noted, "if the computer doesn't work, you can't do the research part."

The variety of pieces of hardware entering the library only compounded the problem. While libraries may have IT employees to deal with hardware issues, most librarians found themselves dealing with frustrated patrons when no other help was available to troubleshoot malfunctioning scanners, laser discs, personal digital assistants (PDAs), printers, or computers themselves. The challenge of keeping current with ever-changing technology was universally voiced.

Troubleshooting did not however stop with hardware difficulties. Reference librarians were dealing daily with the need to communicate among themselves regarding proxy server issues, connectivity to electronic resources, and broken links.

**"Fugitive literature."** Besides the daily problems of crashing computers, connectivity breakdowns, and multiple systems to learn, librarians expressed concern about real professional issues. Information not available electronically was being lost. Several librarians noted that when materials were not available online as full text, patrons would do without or would find an inadequate substitute, rather than find a hard copy—even if the library owned it in print, an observation borne out by research [16]. "The concern, because

we've so focused on the online, a lot of printed material of great importance is not online in any fashion and it is becoming essentially fugitive literature." This trend was increasingly disturbing to librarians, who reiterated their own responsibility to remind patrons of these neglected but important resources.

**"The library used to be this gate keeper. Now the whole ballgame is access."** Using technology to produce an electronic library accessible anywhere, any time, was a major area where librarians envisioned much promise for future professional roles. Configuring an electronic library to meet the needs of patrons not coming into the library was viewed as one of the major changes from the past and challenges of the future. Librarians noted that five years ago they operated mainly in a print environment. This has changed dramatically as other librarians echoed this comment, "We are now all becoming facilitators of access."

To facilitate access, librarians were anticipating the information needs of patrons and providing personalized Web pages. Besides this effort expended on improving general library Web page design, librarians were creating personalized Web pages (portals) that linked the resources pertinent to the patron's specific interests and highlighted those resources. Librarians would still like to see more interoperability between resources, so that patrons could link directly to full-text journals from database searches.

### Reference duties

Providing traditional reference services such as answering questions at the reference desk or providing mediated searches have changed for librarians, consuming much less of their time. Moreover librarians noted that the walls between reference and other library departments had become much less rigid, more fluid. The debate revolving around the use of paraprofessionals at the reference desk [17] seemed to have been resolved at most institutions and was an accepted practice at most of the interviewees' libraries. Reference librarians were used as back-up support, and all noted that the few reference questions they received were often more complex than most of those encountered in the past. Patrons using the Web now answered ready reference questions for themselves.

As a result of patrons asking fewer reference questions, librarians expressed concern that patrons were missing valuable resources. With mediated online searches came dialogue. Now that mediation was no longer there, patrons might miss resources that the librarian did not have an opportunity to suggest. This was another reason given for developing personalized Web pages for patrons that proactively anticipated the various resources appropriate to a particular patron's interests.

### Insights offered by directors: marketing and statistics

In relation to the questions asked during the focus groups, the reference librarians tended to focus on the

issues they faced daily. The library directors tended to take a more global view of the issues faced by libraries, with a particular focus on reference, as requested by the interviewer. Two areas where this was most apparent were in the need for better marketing of the library and reporting statistics.

**"The key today is promotion."** Reference librarians noted a desire to be more proficient in marketing, or public relations, for the purpose of better marketing the various resources their libraries offered to patrons to further support the patrons' information needs. Directors also noted a need for better marketing or public relations for their libraries, but this need was often seen in conjunction with the need to justify their budgets to the larger institutions.

This need for library promotion, in turn, led to a discussion of the need for adequate statistics. "The things that get funded are those that are known to be of value and that you have statistics, data, that can demonstrate your success." This quote was similar to the notion expressed in the cutline to the cover of the July 2002 issue of the *Journal of the Medical Library Association*:

The common perception among institutional administrators that library and information services do not generate revenue or reduce costs for the organization makes libraries a likely target for examination by cost-conscious administrators. It is critical that medical librarian in both hospitals and academic medical centers tie their measures of value for library and information services to the missions of their organizations and state these measures in terms administrators find useful and acceptable. [18]

**"How do we know if what we are doing or providing is really helping the people?"** Library directors saw outcomes data (sometimes referred to as impact data) as a partial solution for providing a fuller picture of a library's performance. Providing outcomes data was difficult to achieve, however. But as one director observed, "output measures are not very meaningful. We've moved beyond that. Outcomes are what we have to be looking at. And I don't know how you measure outcomes." Moreover, it was often viewed as institution specific. Directors asked such questions as: Do we effect change? What do patrons like or not like about the library? What kinds of resources do they want? If we analyze patron questions what will they reveal about our service?

**"Data to measure human activity is very difficult."** Directors reported trying various approaches in reporting statistics to administrators. Some were moving from how they *measured* to how they *described* services and activities. "It's close to fruitless. It's a waste of time to try to measure time, but you should still try to account for what you do. And I'm moving towards narratives to higher administration." Some included anecdotal evidence as part of their annual reports.

Other directors took a more economically based approach. "You have to find those measures that justify

why you do something in cost benefit ratios." These measures included journal use statistics to justify an increase in journal spending.

**"We're counting quantity and frequency and maybe we need to devise a way to measure quality."** Still other approaches included looking to user surveys to justify and measure the impact of the library. With baseline data, directors hoped to be able to compare user satisfaction from year to year. Whatever the combination of approaches they used, all agreed marketing and statistics were difficult areas with unresolved issues.

## MISCELLANEOUS OBSERVATIONS

At various times in the focus groups, librarians expressed their desire to be more knowledgeable about copyright issues. The issue of access rights was something few librarians worried about in the past. If the library owned an item, the rules of copyright were fairly straightforward. With the advent of various licensing agreements, libraries now must concern themselves with such issues as interlibrary loan restrictions, password protection of resources, and security. Many of the questions asked by patrons in these areas were difficult for the librarians to answer, because there was not one answer for every situation.

On a very positive note, many of the directors and focus group participants noted what they perceived to be an increase in the status of librarians as they assumed more of the duties noted above. As librarians became proactive and interacted with faculty more than before, the relationship changed from one of service on the part of librarians to one of collegiality and collaboration. Many mentioned the present time as being very exciting with new opportunities for involvement and learning.

## CONCLUSION

With their history of service and dedication to their profession, academic health sciences reference librarians have heeded the call of their professional organizations and leaders to assume new and expanded roles to remain a vital profession that fully anticipates and meets the information needs of its patrons. Librarians teach more; they utilize technology to build a library without walls; they anticipate users' needs; they try to personalize and filter information and information sources for their patrons. They have evolved their teaching and service models from "just in case" to "just in time" to "just for you." Taking the suggestions and insights offered by the library's professional leaders and implementing them into everyday work life with all its demands and constraints, however, is no easy task.

Areas where librarians are looking for future learning opportunities include adult learning theory, specialized databases, resources needed by researchers, evaluation of the primary literature, technological de-

velopments, Web page design, public relations, copyright and licensing issues, and measurement tools that highlight the value of their libraries. In addition, the need for specialization within the field itself merits dialogue. With their fingers on the pulse of the library's daily activities, librarians themselves provide a balancing vision of their new roles, with all the issues that accompany their implementation and that complement the insights offered by the profession's leaders. Taken together, these insights provide a blueprint for excellence that is both visionary and practical.

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## APPENDIX

### Focus group questions

1. How long has each of you been a reference librarian in an academic health sciences library?

2. What do you view as your major role right now?

■ What percent of your time do you spend at the reference desk?

■ What percent of your time do you spend teaching, Web designing, outreach, etc.?

3. Do you perceive your job as having changed over the past 5-10 years?

■ More technical services activities?

■ Collection development? Library planning? Web pages? Evaluation of databases? Money decisions? Electronic reference? More teaching?

4. If so, how?

■ What new roles are you currently performing?

■ What old roles are diminishing?

■ What old roles are increasing?

5. Training: are you taking different types of classes than you used to in order to keep up?

6. What new roles would you like to perform in the future that you are not currently doing?

7. What current statistics do you keep?

■ Do you think they accurately reflect what you do?

■ Who receives copies of your statistics?

■ Do you have a role in determining what statistics you gather for your own purposes?

8. Are you keeping any new measures (statistics) to reflect these new realities?

■ If so, what are they?

■ If not, what ones might you consider?

9. Are there new roles you are performing for which you wish you had been better prepared?

10. Any other observations?