Rethinking the provision of reference services in academic medical school libraries

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New roles for librarians are emerging as a result of rapid changes in information technology. The literature is replete with controversy about nonprofessionals staffing the reference desk, yet such changes in staffing may provide the time librarians need to do other tasks. This paper describes a research project that examined reference desk staffing in academic medical school libraries and its effect on questions received and the provision of a consultation service. A questionnaire was sent to all academic medical school libraries in North America and a 70% return rate was achieved. Results indicated a significant relationship between nonprofessional staffing and both the questions received and the provision of research consultation by appointment. The author suggests that services be reconfigured to make more effective use of both professional and nonprofessional staff.

INTRODUCTION

New roles for public services librarians are emerging on many academic campuses in conjunction with rapid changes in information technology. Librarians are finding it necessary to assume a more proactive role on campus and elsewhere in order to provide adequate service in this changing environment. Expanding instructional duties; developing educational software, information systems, electronic databases, and user aids; doing market research; developing liaison programs and partnerships with campus users as well as with industry; and developing a highly professional consultation service are among the new responsibilities of librarians.

Rettig and others discuss the growing discontent with traditional reference service, calling for and describing a redefinition of the role of the public services librarian and advocating the development of new professional services in the evolving information era [1–6]. Medical librarians also describe new roles for themselves [7–10].

In academic medical school libraries, where budgets are cut each year even as demands for new services increase, librarians are looking for new ways to provide information services and are asking questions. Must there be a public service desk staffed by librarians? What level of staffing is required to provide a particular service?

Challenged to find the time to provide new services, librarians are reviewing reference desk staffing and services. To assist with this process, this paper reports on a research project that addressed staffing of the reference desk in academic medical school libraries. The project was designed to determine the effects of staffing the desk with nonprofessionals. The project tested two hypotheses: (1) that reference desk staffing affects the types of questions received and (2) that the use of nonprofessionals influences the provision of research consultations by appointment.

LITERATURE REVIEW

The library literature is replete with controversy about levels of staff on the reference desk. Arguments are made both for and against nonprofessional staffing.

Many authors discuss reasons for staffing the desk with professionals [11–19]. They note that easy access to librarians is important. Initial screening of questions at information or circulation desks can mean high-level questions are sent appropriately to librarians at the reference desk. Nonprofessionals lack the education and experience to conduct a reference interview and often do not know when to refer ques-
tions. In addition, users may not know what level of service to expect if the desk staff has varying qualifications. Patron satisfaction may fall as a result, along with librarians' professional prestige. It has also been noted that the level of subject knowledge of the reference staff is inversely proportional to the amount of time required for service [17]. Vavrek argues that the most completely trained individuals should be on the desk in order to grasp the "potential for communication" [18]. Rosenblum notes that "interpreting the library to the actual user is the essence of librarianship" [19].

Halldorsson and Murfin have found that professionals are clearly superior to nonprofessionals in achieving successful solutions to "faulty information" questions in the reference interview [20]. They recommend that interviewing be done by professionals, who can refer easy questions to other staff members. On the other side of the argument, studies have shown that 41 to 80% of questions asked at the reference desk are directional or informational [21-22]. Research-level questions are much less common [21-25]. As Deeney stated, "The percentage of true reference questions received at the desk that require the skills of the professional librarian is small" [26]. Sullivan built on a study by Calabretta and Ross and found that location and verification queries constituted 59% of all questions at an academic medical library reference desk, concluding that many of the location, verification, and computer questions "could be answered by paraprofessional staff trained to provide this type of service" [27].

Statistics published by the American Association of Health Sciences Library Directors (AAHSLD) showed that the ratio of directional to reference transactions is about 1:2 [28], but reference questions were defined as all questions using information sources, many of which are simple requests for information.

Surveys have revealed that more than 60% of libraries have assigned nonprofessionals to the reference desk, with difficult questions referred to librarians [29-31]. Studies have also shown that nonprofessionals are able to answer a high percentage of questions [32-35]. McDaniel and Ohles outline the pros and cons of using nonprofessionals and conclude, "Despite the arguments against the practice, many libraries realize that using paraprofessionals is an effective way of maximizing their reference services" [36].

METHODOLOGY

A questionnaire (see Appendix) was sent in November 1993 to all academic medical school libraries in the United States and Canada. Member labels were obtained from AAHSLD, but only academic medical school libraries were sent a questionnaire. These labels were checked against Medical School Admission Requirements 1993-94 [37] in order to be sure that no schools were excluded. One hundred forty-seven questionnaires were sent out, and 103 were returned, for a 70% response rate. Not all questions were answered by all libraries, so the reader will notice a variance in the number of responses discussed.

The data were keyed into Dbase IV and analyzed using SAS. Only a small part of the data gathered is examined in this paper.

The "professional librarian" was defined in the questionnaire as "staff with a professional library or information science degree." The term "nonprofessional" was defined as "all other staff." Some articles describe "paraprofessionals" as staff members who have taken some courses toward a library science degree. These staff members were counted in the present study as "nonprofessionals," a term chosen for clarity and conformity to the literature.

RESULTS

Reference desk staffing

Five libraries reported not providing reference desk service, while ninety-seven said they did. One did not respond to this question.

Thirty-one libraries reported having only librarians work on the reference desk, while sixty-three reported a mix of nonprofessionals and librarians. One library reported staffing the desk with only nonprofessionals, who also answered the reference phone. Asked how staff were identified as professional or nonprofessional, forty-eight libraries said staff members were not identified either way, three used signs, eleven had staff members wear buttons, and at one library staff members wore name tags with their degrees on them. At another library, the basic services desk had a sign identifying the services provided.

The scheduling of nonprofessionals on the desk alone (without a librarian) or with a librarian is shown in Table 1.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Nonprofessionals' work schedules</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Alone</td>
<td>19</td>
</tr>
<tr>
<td>Alone any time the desk is open</td>
<td>12</td>
</tr>
<tr>
<td>Both along with librarians and alone</td>
<td>41</td>
</tr>
<tr>
<td>Both along with librarians and alone, any time the desk is open</td>
<td>18</td>
</tr>
<tr>
<td>Only along with a librarian</td>
<td>4</td>
</tr>
</tbody>
</table>

Bull Med Libr Assoc 84(1) January 1996
Table 2
Experiences related to staffing with nonprofessionals

<table>
<thead>
<tr>
<th>Experience</th>
<th>Yes</th>
<th>No</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Referral to librarians delays users</td>
<td>17</td>
<td>37</td>
<td>6</td>
</tr>
<tr>
<td>Questions are referred incorrectly</td>
<td>11</td>
<td>38</td>
<td>12</td>
</tr>
<tr>
<td>Users go away with no answer or an incorrect</td>
<td>14</td>
<td>33</td>
<td>14</td>
</tr>
<tr>
<td>Users do not know which staff members are</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>librarians</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Users get bounced from one staff member to</td>
<td>19</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td>another</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonprofessionals require too much training</td>
<td>2</td>
<td>51</td>
<td>6</td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Why nonprofessionals work on the reference desk

Three reasons for nonprofessional staffing were cited most often in this multiple-choice question: seventeen checked “professional librarians have more time for research questions at the reference desk,” sixteen respondents checked “enables desk to be open longer hours,” and eleven checked “other reasons.”

Other reasons cited by respondents included the availability of experienced nonprofessional staff, the cost-effectiveness of nonprofessionals and the need to make the best use of limited resources, the inability of the library to afford librarians in this role, the need for librarians to devote their time to other professional duties, and the fact that highly skilled nonprofessionals can provide service as well as many librarians.

Experiences with nonprofessionals

Respondents generally reported few negative experiences related to having nonprofessional staff on the reference desk. Table 2 summarizes the responses. The “other” experiences specified included concern that nonprofessionals may not know when they are out of their depth or are giving incorrect or incomplete information.

Relationship of reference desk staffing to questions received

To determine whether reference desk staffing is related to the types of questions received, the variable NPROF (nonprofessionals assigned to the reference desk, yes or no) was tested against the types of questions received using the Wilcoxon Rank Sum Test (nonparametric). As Table 3 shows, there is a significant relationship, and this significance is driven by the directional questions, which were more numerous in libraries with nonprofessionals at the reference desk than at those without.

Table 3
Relationship between staffing the reference desk with nonprofessionals and the types of questions received

<table>
<thead>
<tr>
<th>(Mean)</th>
<th>Nonprofessionals</th>
<th>Professionals only</th>
<th>Wilcoxon prob. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directional</td>
<td>12,966</td>
<td>6,319</td>
<td>0.0595</td>
</tr>
<tr>
<td>Reference</td>
<td>24,200</td>
<td>17,753</td>
<td>0.1211</td>
</tr>
<tr>
<td>Other questions</td>
<td>2,685</td>
<td>5,484</td>
<td>0.3329</td>
</tr>
<tr>
<td>Total questions</td>
<td>34,745</td>
<td>23,773</td>
<td>0.0465</td>
</tr>
</tbody>
</table>

Relationship between reference desk staffing and a research consultation service

Similarly, the relationship between the provision of research consultation by appointment and nonprofessional staffing on the reference desk proved to be significant. In a sample size of ninety-five, Fisher’s Exact Test (2-tail) yielded a probability value of 0.054; the Chi-Square probability value was 0.042. In the group of libraries not providing an appointment service, 14% (14.74%) staffed the reference desk with nonprofessionals, whereas among those providing the service, 50% (52.63%) staffed the desk with nonprofessionals.

DISCUSSION

The size of medical school libraries in North America varies greatly. The smallest library responding had 125 volumes, the largest 726,604. The smallest number of students enrolled in first-year courses was 32, the largest 280. These variances should be kept in mind when considering the results of the study, since they may make a difference in the services provided and staffing needed. In addition, some libraries serve other sciences and may carry additional responsibilities for services requiring different staffing patterns.

The data showed that many academic medical libraries staff their reference desks with nonprofessionals, and that there is a relationship between nonprofessional staffing and the questions received. Specifically, there was a higher number of directional
questions when nonprofessionals were on the desk. There was also a relationship between the provision of research consultation by appointment and nonprofessional staffing.

Directional questions may occur more often at desks staffed with nonprofessionals because of user traffic patterns or other factors not considered. Another possible explanation is that nonprofessionals are instructed in many libraries to answer only directional and informational questions, so they may record all questions as such. Still another reason might be that reference questions are directed, as appropriate, to librarians for consultations, and these queries may not be recorded. Most libraries were unable to supply a count of consultations by appointment, although many reported that these were counted in the reference statistics.

This study indicated that libraries with nonprofessionals at the reference desk appear to be more likely than other libraries to provide research consultation by appointment, as opposed to informal consultation on an *ad hoc* basis. The explanation may be that nonprofessional desk staffing gives librarians more time to devote to consultations.

**CONCLUSIONS**

The use of nonprofessionals on the reference desk remains controversial. However, it seems that a decision has been made, and that this issue should be debated no longer. As Montag wrote, “That decision has already been made in the innumerable daily choices of supervisors” [38]. It could be argued that if the desk can be staffed with nonprofessionals, then they could staff the desk all day, with a backup librarian on call.

At the 1994 Medical Library Association annual meeting in San Antonio, Robert M. Braude of Cornell University said, “We have two choices: find more staff, or reallocate it... Traditional reference desk service looks like a service that you do not expect to be taken seriously... We have already compromised the concept that only reference librarians can answer reference questions” [39]. He suggested three tiers of service: self-service, information desk service, and consultation and education. These suggestions seem reasonable to this researcher and several other authors [40–46]. In addition, the second Library Solutions Institute proceedings contain numerous articles discussing similar revisions to reference service [47].

Reference desk service must be changed to give librarians time for concentrated professional work. Medical librarians should examine their reference desk operation and consider replacing it with a professional consultation service and an information desk staffed only by trained nonprofessionals with at least bachelor’s degrees. Libraries should make clear to users the type of service they may expect at the desk. In smaller libraries, information service may be provided from the one service desk in the library. Renaming the service desk the “information desk” may help distinguish it from the former reference desk and the new consultation service. Such a name also may clarify for nonprofessional staff the nature of their duties, which are not reference services.

A consultation service requires a professional setting, such as an office with, at the very least, desktop access to the online catalog, all mounted databases, the World Wide Web, and other Internet resources. What the professionals do and how to reach them for an appointment must be clear to both users and staff. The service should be advertised and provided both in the library and in the users’ environment. This service should enable librarians to meet new user demands.

Further research is recommended on the relationship between the types of questions received and the types of staff on the desk; evaluation methods for information service provided by nonprofessionals and consultation service by librarians; the accuracy of referrals to librarians from an information desk; and the availability of librarians for consultation due to new desk staffing arrangements.

**REFERENCES**

32. Boyer, op. cit.
33. Courtos, op. cit.
38. Montag J. Choosing how to staff the reference desk. Ref Lib 1986 Spring/Summer;14:32.

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APPENDIX

A Questionnaire on Information Service in Academic Medical School Libraries

This questionnaire uses ALA’s Committee on Statistics for Reference Service’s definitions of “reference” and “directional” questions as follows.

A REFERENCE transaction (or question) is an information contact which involves the use, recommendation, interpretation, or instruction in the use of one or more information sources, or knowledge of such sources, by a member of the reference/information staff. Information sources include: (1) print and non-print materials; (2) machine-readable databases (including computer-assisted instruction); (3) library bibliographic records, excluding circulation records; (4) other libraries and institutions; and (5) persons both inside and outside the library.

A DIRECTIONAL transaction (or question) is an information contact which facilitates the use of the library in which the contact occurs, and its environs, and which may involve the use of sources describing that library, such as schedules, floor plans, handbooks, and policy statements. Examples of directional transactions are: (1) directions for locating facilities such as restrooms, carrels, and telephones;
(2) directions for locating staff and users; (3) directions for locating materials for which the user has a call number; (4) supplying materials such as paper and pencils; and (5) assisting users with the operation of machines.

In this questionnaire the term "professional librarian" is used to mean staff with a professional library or information science degree. The term "non-professional" is used to mean all other staff.

Use the last year for which you reported statistics.

1. How many medical students are admitted into first year of your medical school? __________
   Is there a hospital in the same building as your library, or physically connected to it?
   □ Yes □ No
   What are the total volumes (books and bound periodicals) in your library: __________
   Are problem-based learning methods used in the medical curriculum? □ Yes □ No
   If yes, is it for:
   □ more than about 50% of the curriculum?
   □ less than 50%?
   Is there a computer-based resource centre for students in your building with software simulating patients, cases, etc.? □ Yes □ No
   How many computer searches did your staff do for users last year? __________

2. In your library, how many FTE staff are assigned to Information Services functions (i.e. exclude technical services functions)? __________

3. Does your library provide Reference Desk service? □ Yes □ No If no, skip to question 13.

Reference Desk Service

4. How many reference and directional questions were received at the Reference Desk last year?
   (Include questions received in person, by mail, fax, e-mail or phone. EXCLUDE questions received during research consultation by appointment NOT at the reference desk.)
   Reference __________ Directional __________
   Other (specify) __________

5. How many hours per week is the Reference Desk staffed during the academic term/semester? __________

6. Is your Reference Desk staffed with more than one person at busy times? □ Yes □ No
   If no skip to question 7.
   If yes, state total number of person hours per week scheduled during the academic term/semester: __________

7. Do you staff the reference desk with professional librarians? □ Yes □ No
   non-professional staff? (see definition above)
   □ Yes □ No
   If you do not have non-professional staff on your reference desk please skip to question 13.

Non-professional Staff on the Reference Desk

8. Of all the hours reported in (6) how many of the scheduled hours per week are provided by non-professional staff? (see definition above) __________

9. How are staff members identified as professional librarians or non-professional staff?
   Check all that apply:
   □ Signs at the desk
   □ Staff wear identification (buttons, etc.)
   □ Other methods to inform users (specify)

   □ Staff are not identified
   □ Librarians do not work on the reference desk

10. Do non-professional staff work:
    Alone at the Reference Desk? □ Yes □ No
    Along with a librarian? □ Yes □ No
    Alone, and along with a librarian (i.e. both of the above) □ Yes □ No
    If non-professionals are scheduled alone, specify the times of day:
    □ anytime □ all times
    □ only least busy times
    □ evenings □ weekends
    □ other (specify) __________

11. What are your primary reasons for staffing the reference desk with non-professional staff? Please rank all of the following reasons in order of importance to your library service where 1 is the most important and 7 is the least important.
    □ Enables desk to be open longer hours
    □ Professional librarians have more time for research questions at the reference desk
    □ More users can be served in busy hours
    □ Non-professionals can answer directional questions
    □ Frees professional librarians to provide research assistance by appointment
    □ Non-professionals can assist users with CD ROM's
    □ Other (specify) __________

12. Have you experienced any of the following due to having non-professional staff on the reference desk:
    Referral to librarians delays users?
    □ Yes □ No □ Not Sure
    Questions are referred incorrectly?
    □ Yes □ No □ Not Sure
Users go away with no answer or an incorrect answer?
☐ Yes  ☐ No  ☐ Not Sure

Users don’t know which staff is a librarian?
☐ Yes  ☐ No  ☐ Not Sure

Users get bounced from one staff to another?
☐ Yes  ☐ No  ☐ Not Sure

Non-professionals require too much training?
☐ Yes  ☐ No  ☐ Not Sure
☐ Other (specify) __________________________

Various Services

13. Do you provide telephone reference service?
☐ Yes  ☐ No

If no, skip to question 14.
If yes, which staff answer the reference phone?
Check all that apply:
☐ Professional librarians?
☐ Non-professional staff?

Is the phone answered at the Reference Desk?
☐ Yes  ☐ No
☐ Elsewhere? (specify) __________________________

14. Does your staff assist users in person in the library, or by telephone to:
(Check all that apply.)

Search databases on-line on campus?
☐ Within the library
☐ From Users’ Home/Office

Search databases available on-line from commercial vendors (e.g. Dialog)?
☐ Within the library
☐ From Users’ Home/Office

Search Library Catalogues on the Internet?
☐ Within the library
☐ From Users’ Home/Office

Search other Internet resources & databases?
☐ Within the library
☐ From Users’ Home/Office

15. Do you receive reference questions by electronic mail?
☐ Yes  ☐ No

If yes, how many did your library receive last year? ________

Are the questions usually answered by staff while they are on the Reference Desk?
☐ Yes  ☐ No

16. Is assistance for using CD ROM’s provided?
☐ Yes  ☐ No

If yes, at which desk is this done?
☐ Reference Desk ☐ Information Desk
☐ Another desk (specify) __________________________

Who provides the assistance?
☐ Professional librarians?
☐ Non-professional staff?

Relationship to an Information Desk

17. Do you have a service desk (other than the reference desk) designated for users to obtain “directional” information?
☐ Yes  ☐ No
If no, skip to question 18.

If yes:
Is it the Loan Desk?  ☐ Yes  ☐ No
The Periodicals Desk?  ☐ Yes  ☐ No
A separate Information Desk?  ☐ Yes  ☐ No
Other, specify __________________________

Can users see this desk from the Reference Desk?
☐ Yes  ☐ No

Approximately how far away from the Reference Desk is this desk?
Check one:
☐ less than 20 feet
☐ 20–49 feet
☐ 50–100 feet
☐ more than 100 feet

Do professional librarians refer users to this desk for certain kinds of assistance?
☐ Yes  ☐ No
If yes, for what kinds of assistance?
Check all that apply:
☐ Library hours
☐ What does this periodical abbreviation mean?
Where is specific:
☐ room ☐ staff ☐ book
☐ periodical ☐ call number?
☐ What other library has this item?
☐ Do you have a particular book or item?
☐ Other (specify) __________________________

Research Consultation by Appointment

18. Does your library provide research consultation by appointment (do not include in-person mediated computer searching)?
☐ Yes  ☐ No
If you checked No skip to question 19.

Are these consultations conducted by:
☐ librarians? ☐ non-professional staff?

Since what date has this service been provided? ______

How is the research consultation by appointment advertised?
Check all that apply:

- Notice about research consultation by appointment is put in a library brochure
- Sign up sheet for research consultation by appointment is placed in the library where users will see it
- Notices about research consultation by appointment are put in a campus or faculty paper
- Notices about research consultation by appointment are sent to faculty departments for posting
- Direct mailings to faculty
- Office hours for research consultation are posted
- Electronic “bulletin board” on campus
- Notices put on Book Marks, or Date Due Slips and given out at Loan Desk
- Other (specify) __________________________

In total how many staff hours per week are allocated, or scheduled for research consultation by appointment (count only the hours separate from reference desk hours)?

- less than 4 hours/week
- 4–10 hours/week
- 10–15 hours/week
- more than 15 hours/week

How many hours/week are actually expended in this research consultation by appointment (exclude hours worked on the reference desk)? __________________________

How many research consultations were conducted last year? _______ (this figure should be excluded from question 4 above), and how many individual users were involved? _______

On average how long does the research consultation take per research question?

Check one:

- less than 10 minutes
- 10–19 minutes
- 20–39 minutes
- 40–60 minutes
- more than 1 hour
- Other, specify __________________________

What has been the response to this service from:

the users?

the staff?

19. Have you any comments you’d like to add to the data you have presented?

Please return this questionnaire to:
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7 King’s College Circle
University of Toronto
Toronto, Ontario
Canada M5S 1A5
416 978-7662