Using focus groups to discover health professionals' information needs: a regional marketing study*†

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This paper describes the use of focus groups as a data-gathering tool, in both theoretical and practical terms. Calder's discussion of focus groups is presented as the basis of the theory, and the marketing study conducted by the Midcontinental Region of the National Network of Libraries of Medicine serves as the backdrop to highlight some of the practical aspects of using this qualitative data-gathering method. Results of the marketing study are presented to illustrate the types of data that can be gathered using this methodology and the types of plans for future activities that can be developed based on the data gathered.

Like other qualitative research methods, focus groups are now an established methodology in library science [1]. Focus groups also have been suggested as a useful tool for collecting feedback from library users when employing quality improvement techniques [2]. While productive in terms of insights generated for research and customer feedback, focus groups have limitations that must be acknowledged.

Randomness cannot be ensured in the selection of focus group participants, so different outcomes may result when different groups of individuals are questioned. The results, therefore, cannot be generalized to a population, and many may reject focus group methodology outright for this reason. Others with an interest in using focus groups for collecting customer input may be hesitant to try it, either due to lack of experience or because little has been written on the practical aspects of using the technique in libraries.

This paper describes the use of focus groups as a data-gathering tool in both theoretical and practical terms. The marketing study done by the Midcontinental Region of the National Network of Libraries of Medicine (NN/LM-MR) will serve as a backdrop to highlight some of the practical aspects of using this technique. In addition, three theoretical approaches for focus group use proposed by B. J. Calder are presented to strengthen the theoretical basis for employing focus groups in research [3]. It is hoped this discussion will alleviate some of the apprehensions associated with focus groups and encourage more librarians to consider using this technique in their data-gathering activities.

BACKGROUND

Under the Regional Medical Library Contract with the National Library of Medicine (NLM), NN/LM-MR proposed a project to help the Regional Office staff determine the information needs, both met and unmet, of the Midcontinental Region's health care professionals. This type of data was needed to ensure that any programs developed for these health care

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professionals truly were going to meet their information needs and help them overcome any barriers they faced in getting to necessary information. Because of federal contract constraints stemming from the Paperwork Reduction Act, the use of a written survey as a data-gathering tool would involve a very complicated review procedure. A great deal of staff time and energy would be needed to complete the review forms, and all that effort would not guarantee approval to use a written survey. On the other hand, use of focus groups would not require such a review, so the NN/LM-MR decided to use focus groups to gather data for the marketing study. Because this was the first time most of the staff ever had been involved in using focus groups as a data-gathering method, some preliminary explorations of the concept and previous experiences with it were undertaken.

A focus group is a gathering of ten to twelve people, usually peers, who are encouraged to talk about a specific topic so that their attitudes, perceptions, and language can be analyzed. These gatherings last sixty to ninety minutes and are led by a highly skilled facilitator who ensures that specific topics and issues are explored. The sessions usually are audiotaped, and the transcripts of those tapes along with the facilitator's notes form the raw data that is analyzed [4].

Use of focus groups in library research represents a small but growing body of work, though there are many librarians using focus groups not yet reported in the literature. Examples can be found in academic libraries [5] and special libraries [6]. In these cases, focus groups were used to evaluate the collections and services of the library. Focus group use in a medical library, also to see how users viewed the library's services and collection, was reported by Robbins and Holst [7].

Focus groups offer some strong advantages over other research methodologies. Focus groups allow free and open expression by participants concerning the topics covered, without imposing the conformity of surveys. Unexpected issues that come up in a session can be explored, another feature not possible with written tools. Focus groups also represent a very efficient data collection method in terms of time, because several groups can be done in the course of a week. The disadvantages of the methodology include the costs (which can be high, due to the professional fees for a trained facilitator) and the time needed to recruit willing participants. Also, as previously mentioned, focus-group findings cannot be generalized to the population as a whole.

This last drawback was of concern to the NN/LM-MR staff. The study had to produce information applicable to all the health professionals in the region, not just those who would make up the focus groups. But this concern was alleviated after the staff read a paper by B. J. Calder that discussed three different theoretical strategies for focus groups: the exploratory, the clinical, and the phenomenological approaches.

In the exploratory approach, focus groups are a precursor to a quantitative study. The focus groups are convened to help the researcher develop a hypothesis in order to expand understanding of a certain phenomenon. The findings from this type of focus group are not seen as yielding preliminary versions of quantitative findings (as a presurvey does), and, therefore, they cannot be generalized to a population. The purpose is simply to help the researcher develop a hypothesis, which then can be tested.

The clinical approach assumes that while individuals may believe they are reporting their behavior accurately when filling out a survey, they may not be. For example, they may overreport their use of computers, particularly if using a computer is considered “good.” But an expert focus-group facilitator, using his or her clinical judgment with some tactful questioning, can gauge the true level of computer acceptance among the participants. Some researchers feel results of this use of focus groups can be generalized to a population, due to the experience and scientific knowledge of the expert, especially if data from four or five focus groups are brought together [8].

The phenomenological approach profits from the focus group's ability to let the investigators share in the perceptions of the group participants. Generalizing results is neither the purpose nor the aim of this kind of a focus group. The aim is to see and feel as the focus group participants do, in order to better understand them.

THE MARKETING STUDY

With concerns about generalization of focus group results relieved and knowing that the technique was based on sound theory, the NN/LM-MR staff negotiated the terms of the project with NLM in early 1992. NN/LM-MR then subcontracted to a marketing firm the task of helping the staff better understand the information needs of the health professionals practicing in the region.

It was considered very important to hire marketing professionals to facilitate the focus groups. None of the NN/LM-MR staff members were trained in marketing research or in conducting focus groups. Just like librarianship, focus group facilitation is not something “anyone can do.” Special knowledge and skills definitely are needed. The ability to keep the discussion centered on the topic at hand and the knowledge of when to probe an individual to get beyond pat answers are specialized skills needed by a good focus-group facilitator. Another reason the NN/LM-MR staff was not used in facilitating the
focus groups was the fear that participants might give the "polite" answers to the staff or say what they thought a librarian would want to hear.

The consultants submitted a proposal that addressed the following objectives: identify information behaviors without a written tool, using focus groups; identify market sensitivity factors and barriers; identify specific information and service needs; identify appropriate communication channels; and, finally, develop a model marketing plan for the NN/LM-MR.

Because the consultants were marketing experts and not librarians, the first task was to give them as much background information as possible about medical libraries, NLM and its services and products, the NN/LM, the importance of information in the health care setting, and how librarians work together. One staff member was assigned to assemble information to send to the individual consultant working on the project and to answer any of his questions about the NN/LM-MR. In addition, this staff member also handled all general communications involved with the project, from setting up meetings between the marketing group and the NN/LM-MR to working with the region's librarians to finding names of health care professionals who might be interested in participating in focus groups. This point of contact proved very helpful as the project progressed.

Next, the consultant helped the NN/LM-MR staff define the groups that should be targeted for the study. They quickly realized that trying to talk to every group served by the NN/LM-MR would be too complex and too costly. With advice from the consultant, the groups most important to the mission of the NN/LM-MR were chosen for the study. These groups were physicians, nurses, pharmacists, hospital administrators, dentists, allied health professionals, and health sciences librarians. In addition, it was decided to segment these groups further when feasible into clinical/academic and urban/rural users. The breakdown of numbers of focus groups per professional category is shown in Table 1.

The consultant then worked with the NN/LM-MR staff to help them refine the types of information needed from the focus groups. The established objectives were to determine awareness and use of NLM products, satisfaction with those products and services, unmet information needs, user perceptions of the ideal information system, and methods for increasing awareness.

These objectives were used to help develop the focus group "script," or the questions that would be asked during the session. Because the same questions (or script) were to be used for all of the groups in order to compare their responses, it was important that the questions be broad enough to allow for responses by varied users. The script included approximately twelve questions. Naturally, not all the questions could be covered in the ninety minutes allotted for each of the focus groups, but the creation of the script by the NN/LM-MR staff was a very worthwhile project, because it provided the consultant with yet more information on what was really needed from the study. The questions were grouped into three major categories: specific services (participants were asked about their familiarity with and use of NLM products, which they were asked to name), information-seeking behavior (participants were asked about their use of the library and the barriers they

<table>
<thead>
<tr>
<th>Professional group</th>
<th>No. of focus groups</th>
<th>No. of participants in each group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allied health professionals</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Nursing</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Academic</td>
<td>2</td>
<td>11, 9</td>
</tr>
<tr>
<td>Rural</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Urban</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Medical librarians</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Dentists</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Physicians</td>
<td>2</td>
<td>2, 6</td>
</tr>
<tr>
<td>Rural</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Urban</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Residents</td>
<td>2</td>
<td>8, 10</td>
</tr>
<tr>
<td>Pharmacists</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Hospital administrators</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>14</td>
<td>121</td>
</tr>
</tbody>
</table>

### Table 2
Questions asked of each focus group

**Specific services**

1. Are you familiar with the National Library of Medicine and the services it provides?
2. For those familiar with the services, how familiar are you with them? How did you come to learn about them?
3. How frequently do you utilize the service(s)?
4. What are your perceptions regarding the service(s)?

**Information-seeking behavior**

1. What sources do you use to obtain medical information?
2. Do you utilize a library? For what percent of information needs? What are your perceptions of this source?
3. What factors play a role in your decision to use various sources of information?
4. What are the biggest barriers to gaining access to this information? (Probe for time, money, equipment and knowledge/skills.)
5. How do you use the information? How do you determine the quality of the information?

**Intervention questions**

1. What is the best way to initially get your attention and communicate with you?
2. After I have your attention, what is the best way to communicate with you on a regular basis?
3. How should materials be designed to catch your attention and provide you with quick and easy information on a frequent or periodic basis?
4. Describe the ideal information system. How would it work and what information should it contain? Where would it exist and how would you access it?
encounter in gathering information), and intervention (participants were asked how they like to receive communications about information sources and to describe the ideal information system). The specific questions asked are listed in Table 2.

Because the Midcontinental Region serves six states, decisions needed to be made with the consultant about the locations of the focus groups. It was agreed to convene the fourteen focus groups in four general locations throughout the region to ensure a broad sampling and to recruit both users and nonusers of the network. The locations were to be accessible to contiguous rural settings. The locations were chosen carefully, with the initial groups brought together in Omaha, where the NN/LM-MR office is located. This allowed the staff to work closely with the consultant in fine-tuning the script questions, to ensure they indeed were getting to the exact information needed. Other locations included two cities in states other than Nebraska that were easily accessible to rural areas, as well as a rural town within driving distance of Omaha. This arrangement provided the greatest coverage of the health care professionals served by the network in the most cost-efficient manner, especially in terms of the facilitator’s traveling time and expenses.

The greatest challenge was finding willing participants. The only real qualifications for inclusion in a focus group were to belong to the particular class of health care professionals being recruited and willingness to talk. In the most extreme case, more than seventy calls were made to recruit a focus group where only two participants actually showed up. However, most recruiting efforts were much easier than that. Focus group sizes ranged from two to twelve participants.

A staff member from the marketing company did all the recruiting for the focus groups, a task that included developing the telephone invitation script and sending out written confirmations of the focus-
group time and date, a reminder letter, and a thank-you letter. The staff of the NN/LM-MR needed to approve all correspondence. Participants were recruited from names provided by the region's librarians and from association rosters.

A modest honorarium was provided to the participants to recognize that they were taking important time away from their professional responsibilities. In addition, mileage expenses were paid for anyone traveling more than forty miles. The representative of the marketing group who did the recruiting got the impression that information services were of great interest to most persons contacted. The participants really wanted to be a part of the focus groups, perhaps because the study's sponsor, NLM, is well respected in the health care field.

It is important to disclose to the focus-group participants at the beginning of the session if they are going to be audiotaped or observed from behind one-way glass. Such disclosure did not seem to affect what was said during the session, but it gave participants the option of leaving if they did not feel comfortable with being taped or observed.

**FINDINGS**

After each focus group, a transcript was typed, resulting in a total of more than 800 pages of text. The transcripts were analyzed by the consultant using a computer program that found occurrences of specific words or phrases. A matrix was created that allowed comparisons among different groups and offered a concise summary of responses. The matrix may be found in Table 3. The NN/LM-MR staff will use the matrix in developing programs and identifying effective means of communicating with the various user groups. Following are the major findings from this analysis.

- Each group exhibited a certain degree of product recognition extending to locally mounted systems as

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**Table 3**

<table>
<thead>
<tr>
<th>Pharmacists (Omaha)</th>
<th>Pharmacists (Salt Lake)</th>
<th>Medical librarians (Omaha)</th>
<th>Allied health (Omaha)</th>
<th>Dentists (Omaha)</th>
<th>Residents (Salt Lake)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High: MEDLINE, GRATEFUL MED, Clinical Alerts</td>
<td>High: MEDLINE, GRATEFUL MED</td>
<td>High: Virtually all NLM services</td>
<td>Low: MEDLINE, miniMEDLINE</td>
<td>Low: MEDLINE, miniMEDLINE, AIDSLINE, TOXLINE, Index Medicus</td>
<td>Moderate: MEDLINE, MEDLARS, PDQ</td>
</tr>
<tr>
<td>curriculum, colleagues, advertising</td>
<td>colleagues</td>
<td>colleagues, NLM librarian</td>
<td>academic training, librarian</td>
<td>varied from once or sometimes to monthly</td>
<td>varied by patient cases and/or course work</td>
</tr>
<tr>
<td>daily, weekly, periodically</td>
<td>weekly</td>
<td>daily, hourly</td>
<td>yearly to bimonthly</td>
<td>40% on own, 60% librarian. 100% for patient</td>
<td>80% on own, 20% secretary, librarian. 80% for self, 20% for others</td>
</tr>
<tr>
<td>80% on own, 20% by librarian. 75% self, 25% for others</td>
<td>80% on own, 40% for self, 60% for Dr., R.N., residents</td>
<td>75% time on own, 24% training patrons, 1% using RML. 30%-50% of all requests not from end user</td>
<td>40% on own, 60% librarian. 60% for self, 40% for patient</td>
<td>40% on own, 60% librarian. 100% for patient</td>
<td>100% others, secretary or librarian. 100% for self</td>
</tr>
<tr>
<td>MEDLINE, librarian, Drug Information Center, Micromedex</td>
<td>reference books, Micromedex, MEDLINE, GRATEFUL MED, Drug Information Center, librarian</td>
<td>virtually all available NLM products</td>
<td>librarian, MEDLINE, ERIC, LEON, reference books, colleagues, journal collections</td>
<td>Index to Dental Literature, librarians, MEDLINE, study groups, detail reps, personal journal collections</td>
<td>Journal collections, peers and hospital physicians, MEDLINE, SilverPlatter, librarian</td>
</tr>
<tr>
<td>time, lack of knowledge</td>
<td>lack of search skills and time</td>
<td>overwhelming number of requests, lack of knowledge by requester, lack of consistent NLM communications</td>
<td>lack of computer knowledge, cost, personal inclination</td>
<td>personal inclination, need, lack of knowledge</td>
<td>time</td>
</tr>
<tr>
<td>keeping abreast of latest information, patient information</td>
<td>patient education, drug interactions, latest information</td>
<td>patient care, emergency care, lectures, students' coursework, teachers' preparation</td>
<td>patient education, grant writing, presentations, academic papers</td>
<td>research projects, papers, unusual cases</td>
<td>patient questions, research, lectures</td>
</tr>
<tr>
<td>Hospital administration (St. Louis)</td>
<td>Information management</td>
<td>Administration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High: MEDLINE, GRATEFUL MED</td>
<td>NLM training, colleagues</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>not known</td>
<td>daily</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>95% on own, 5% librarian or RML/ NLM. 100% for others (Dr., R.N.)</td>
<td>trade journals, librarian</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEDLINE, GRATEFUL MED, various other electronic formats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>none</td>
<td>quality (COI), comparative administrative data</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>patient care, lectures, legal matters</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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*Bull Med Libr Assoc 82(3) July 1994* 309
well as NLM and commercial databases. Pharmacists were the group best acquainted with a wide variety of information sources.

There was little awareness of the NN/LM. Aside from the medical librarians, only the academic nurses and physicians indicated any awareness of this program and its role supporting their information gathering.

Librarians were seen by most as an essential link in the information chain for a number of different reasons, especially their expertise in searching and knowledge of MeSH terms.

Other information intermediaries also were identified. Colleagues, pharmacists, secretaries, education coordinators, medical residents, and nursing students all were named as serving in that capacity in some way.

Many participants were extremely positive about end-user searching, both on CD-ROM systems and GRATEFUL MED. They cited the desire to be independent of an intermediary and intellectual satisfaction as important factors.

The ideal information system would have easily accessible human search advisors or easy-to-use artificial intelligence coaches, full-text products for one-stop information shopping, filters to simplify data gathering, and graphics.

The barriers cited most often included time, inaccessibility, lack of computer skills, and inconvenience, but not cost.

Physicians and pharmacists were the most consistent groups in recognizing that timely information is a powerful tool for cost-containment and protection in litigation.

All groups had definite communication preferences, ranging from articles in the professional literature to direct mail. Most did not want to be telephoned but liked exhibits at professional meetings.

It is important to remember when considering these results that they reflect only the insights, opinions, and feelings of the participants in this particular study's focus groups. Although the data could be applicable in other areas, due to the methodology itself these views cannot be interpreted as representative of all health professionals.

ANALYSIS OF THE STUDY BASED ON CALDER'S THEORY

All three of Calder's theoretical approaches to focus-group use were to prove very worthwhile for the study. As an example, a fascinating observation concerning pharmacists was made during review of the focus-group data. Pharmacists seemed to do a great deal of information gathering from a wide and varied array of resources, and they frequently do this research for others. This practice was mentioned even by pharmacists working in places where there was a health sciences librarian. The exploratory approach allowed the NN/LM-MR to ask the research question, "When there are no formal library services in an institution, do health care professionals turn to the pharmacist for help before other resources are used?" This will be tested in a follow-up study by the NN/LM-MR staff.

The clinical approach also was used in the study. Information-seeking behavior is an activity for which self-reporting might not be the most accurate measurement method, as was observed by Covell [9]. When answering a questionnaire, physicians in Covell's test group indicated they had one information inquiry per week. But when the group was observed, they averaged six information inquiries per week, significant underreporting. Thus, to ensure that the present study produced an accurate picture of health care professionals' information-seeking behavior, the clinical application of focus groups turned out to have a very legitimate place in the analysis. The marketing consultant had a great deal of experience working with health care professionals and was aware of the different issues affecting their lives. Reading the transcripts clearly showed the skillful way in which the consultant talked to the different groups to obtain information on exactly what was happening in terms of information retrieval. The NN/LM-MR staff has a great deal of confidence in the validity of the data collected from the study and can confidently plan future activities based on the data.

In addition, the phenomenological approach to focus groups also had a place in interpretation of the data. In reading the different comments voiced at various focus groups about GRATEFUL MED, the NN/LM-MR staff came to a greater understanding of the difficulties searchers may have with MeSH terms. For example, some searchers that used MeSH terms chose the wrong term for the concept they were investigating. The verbatim transcript helped the staff to feel and understand more accurately the frustration nonlibrarians experience concerning thesauri, especially the detailed MeSH.

CONCLUSION

The analysis of the transcripts, coupled with extensive background information assimilated and interpreted by the consultant, provided the framework for the plan the marketing group developed for the NN/LM-MR. Basically a communication plan, it takes advantage of the existing network structure and points out ways the NN/LM-MR can improve service to its customers through consistent and coordinated communication. For example, a detailed publication audit of all materials used by the NN/LM-MR when communicating with its customers was suggested to
help the program present a unified and consistent image. Also, the NN/LM-MR was urged to develop specific types of communication materials, such as a handbook on how the network works for both health care professionals and medical librarians.

The plan still is being discussed by the NN/LM-MR staff in preparation for implementation. Staff members believe the study has provided invaluable information on which to base planning for several years. Also, the staff has gained greater insight into the clients they serve as a result of the focus groups. This insight will facilitate the planning of on-target programs as well as assist the NN/LM-MR in its own quality improvement activities. Because of the unique perspective the focus-group data provided, the future programs developed by the NN/LM-MR will be more in tune with the needs of clients than are current services.

The authors hope this paper presents sufficient theoretical and practical background to encourage others to consider use of focus groups when appropriate during research projects and when gathering data for quality improvement projects.

REFERENCES

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