Medical Education

Assessing Continuing Medical Education Needs in New Mexico

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In 1981 a decision was made by the University of New Mexico School of Medicine to create a new Office of Community Professional Education whose primary function was to create continuing medical education programs tailored to its constituency. To accomplish this, a needs assessment survey was distributed to a stratified random sample of members of the New Mexico Medical Society practicing throughout the state to determine preferred learning styles, locations of programs and times of year, as well as other determinants for attending such programs. The survey was received by 647 physicians and 469 returned them—a response rate of 72.4 percent.

Conclusions reached as a result of the needs assessment will serve as a basis of policy formation for the delivery of continuing medical education at the University of New Mexico School of Medicine.

Continuing Medical Education (CME) as a requirement for relicensure has been mandatory in New Mexico since 1972. New Mexico was the first state to enact such a requirement. A formal Office of CME was established in 1976 by the University of New Mexico School of Medicine, the only medical school in the state. During the next five years the role of the office evolved into a more far-reaching one. In 1981 a decision was made by the medical school's administration to create a new Office of Community Professional Education (OCPE), which absorbed the Office of Continuing Medical Education. The primary function of the new office was to create CME programs that were tailored to its constituency: doctors practicing throughout the predominantly rural state of New Mexico.

The OCPE's premise was that if a CME program was to be successful, it must be responsive to physicians and the communities they serve. It has been found that the majority of typical continuing education programs offered by accredited institutions or organizations are based on the concept of institutionally oriented planning.[1] Institutionally oriented planning is often dictated by the interests of the organization rather than the needs of the learners. CME opportunities in New Mexico were plentiful; the challenge was to establish a new system for it with maximum learner participation. This follows the educational theory, developed by John Dewey in the early 1900s and expanded in the past several years by Malcolm Knowles, that advocates a change from a subject-centered approach (what Knowles refers to as "teacher-directed") to a learner-centered approach (Knowles' "self-directed" learning).[2]

In order then to develop a new system of learner-centered CME, a means of developing two-way communication between the School of Medicine and community physicians was needed. The first link in this communication was to assess what New Mexico physicians thought about CME and what they wanted in this regard from the School of Medicine. To accomplish this, it was necessary to design and implement a needs assessment survey, the first step toward a learner-centered approach.

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Needs assessment surveys for CME were described by Tye and co-workers from the University of Iowa College of Medicine in 1978.[3] The Iowa study sampled every physician in the state to determine CME needs in emergency medicine. Results indicated a desire for more programs emphasizing basic clinical procedures.

Vaughan and associates from the University of Texas Health Science Center in 1979 investigated preferred CME formats and sponsoring agencies, surveying a random sample of physicians in the Texas Medical Association.[4] It was found that most respondents felt their present CME activities were satisfactory; however, location, cost, topic and amount of available time were factors in lack of participation. Texas physicians preferred specialty societies as a source for their CME.

A similar study was reported by Stinson and Mueller from the University of Alabama, Birmingham, in 1981,[5] using interviewing rather than a mailed questionnaire. Selected health professionals were questioned about their CME habits and sources of information. Results indicated that continuing education courses offered by a nearby medical school were the fourth most common choice for CME. Health professionals in "semiurban" areas indicated a desire for programs held locally and audiovisual materials.

Curry and Putnam[6] investigated learning styles of all practicing physicians in the Maritime Provinces of Canada in 1981 to compare the CME methods that physicians stated they preferred with the methods they actually used. For example, a fourth of the respondents stated that they preferred clinical traineeships and another fourth preferred traditional CME conferences; however, most indicated that reading was their actual source of continuing education.

While these studies offered some direction for a needs assessment survey, it was felt that the information learned was not sufficient for us to generalize to the likely needs of physicians practicing in New Mexico. The OCPE decided that in order to formulate worthwhile policy direction for the delivery of CME to New Mexico physicians, a comprehensive needs assessment must be carried out. This paper discusses the needs assessment that was done and the policy directions that were indicated after analysis of the results.

Methods

To develop a needs assessment questionnaire the OCPE assembled a task force that included a physician (Assistant Dean for OCPE), an outreach coordinator, a psychologist and a nurse practitioner—all of whom had wide-ranging experience working with physicians throughout the state. Meetings were held over a five-month period in which results from earlier surveys were studied, sample questions were suggested and various formats were discussed. From these data, questions were devised to discover what was considered worthwhile by practicing physicians, the School of Medicine's faculty and the OCPE. The flow of questions followed a time grouping: the first set investigated present demographic information, the second set asked about past and present CME experiences, the third set questioned learning styles and most appropriate setting and the fourth set collected marketing data and information concerning CME services and topics that could be offered by the School of Medicine. The instrument was designed for ease of answering, computer compatibility and brevity. While most questions were scaled (on a 1 to 6 Likert scale), several were open-ended.

After selection of questions and format, the instrument was field tested with 15 physicians who were representative of the group to be sampled. Questions were then revised and put into final form. A total of 27 questions were selected. At the time of the survey, there were approximately 1,600 physicians licensed to practice in New Mexico and residing in the state. This was determined from the New Mexico Medical Society roster, which accounts for more than 95 percent of physicians practicing in New Mexico. Because cost factors prevented a survey of the entire subject pool, the subjects chosen were a stratified random sample of physicians, representing all specialties practicing in New Mexico. The sample size was 700. For stratification purposes, the number of practitioners in each specialty was determined for each of the 33 counties in the state. If a specialty had fewer than four representatives in any county, all were surveyed. If there were more than 4 but fewer than 50, half were surveyed. If there were more than 50 subjects in any given specialty, a third were included. This stratification was done to obtain a larger sample of rural physicians than would have been possible by using a simple random method. This methodology allowed the OCPE to learn of the CME needs of rural physicians as well as those of their urban counterparts practicing in New Mexico.

In an attempt to assure a high response rate, a cover letter signed by the Assistant Dean for OCPE and the Chairs of each of the specific clinical departments accompanied every questionnaire, personally requesting participation in the survey.

After the initial mailing, each subject was given three weeks to respond. If he or she did not, OCPE staff phoned the physician's office to request a response. Following the phone calls, a second mailing was sent to those who indicated they had not received the questionnaire. As each questionnaire was returned, a code number was assigned and used throughout the analysis of the data to assure anonymity.

Results

The total number of questionnaires mailed and delivered was 647 (of the 700 questionnaires, 53 were returned as undeliverable). After the first three-week period, 377 were returned (80 percent of total questionnaires returned) and 92 questionnaires were returned after the second period (20 percent of total questionnaires returned). The final response rate was 72.4 percent (N=469).

Of the 27 questions in the survey, 9 had specific policymaking implications (see Table 1). Responses were solicited from physicians in 15 specialty areas.

However, the responses of nine specialties make up 87 percent of the total responses, and will be the subject of discussion in this paper. These were emergency medicine, family practice, internal medicine, obstetrics/gynecology, orthopedics, pediatrics, psychiatry, radiology and surgery.

An open-ended question was asked in regard to how present CME could be improved. More than half of the subjects responded to this question. Interest was shown in having more local courses and more specialty-oriented courses, and a general need was expressed for a greater volume of courses. Also requested were problem-based courses with hands-on experience, video courses for home credit and mini-residencies.

When asked if the cost was an important factor in choosing CME programs, those physicians in specialty areas traditionally viewed as lowest-earning (general practice, internal medicine, pediatrics, nonsurgical specialties[7]) were most concerned with cost. However, traditionally high-earning specialty physicians (obstetrics/gynecology, general surgery, surgical specialties[7]) felt cost was not a factor (see Table 2).

When asked to rate ten approaches to learning CME, the majority of respondents rated the traditional slide and lecture format, seminars and workshops with hands-on experience as most helpful. Research paper presentations and teleconferencing were considered least helpful. Small conferences (fewer than 20 participants) were preferred over large conferences (more than 20 participants) by more than two to one (see Table 3).

In the next question, social and political functions of CME programs were rated by respondents. Relaxation, colleague interaction and availability of resort facilities were considered important factors by a majority of the total respondents. "Medical politics" rated lowest by a margin greater than five to one.

When physicians practicing outside of Albuquerque were asked if they would attend CME courses at the School of Medicine or some other Albuquerque location, 48 percent indicated it would be highly desirable to do so (N=277). When asked if they would prefer attending CME courses in their own town, 53 percent felt that would be highly desirable (N=266). Only 25 percent of the respondents who practice outside of Albuquerque indicated they would prefer attending CME programs at a regional center (N=244).

In response to a question on scheduling of CME, November was the most popular month for five of the specialties (internal medicine, obstetrics/gynecology, orthopedics, radiology and psychiatry). None of the physicians indicated an interest in December or Janu-

TABLE 1.—*The 9 Survey Questions (of a Total of 27) Having the Most Important Policymaking Implications*

1. How could your present CME be improved?
2. The most important reasons for choosing the CME programs you have attended in the last three years were:
   1. topic 2. time of the year 3. location
   4. cost 5. other
3. Considering the way you learn best, how helpful do you find the following approaches to CME?*
   1. Traditional CME conference (lecture/slide format)
   2. Seminar with emphasis on discussion among peers
   3. Workshops with "hands on" clinical experience
   4. Panel discussion
   5. Self-study material that may be studied at your convenience
   6. Movies/video tapes
   7. Research paper
   8. Small conference (20-40 participants)
   9. Large conference (40 or more participants)
   10. Other (please explain) _____
4. In addition to their educational function, CME meetings may have a social political function. Please indicate how important the following aspects are for you:*
   1. Colleague interaction (peer support)
   2. Medical politics
   3. General relaxation
   4. Resort facilities
   5. Other _____
5. Where would you prefer to attend CME sponsored by the UNM School of Medicine?*
   1. UNM School of Medicine or other location in Albuquerque
   2. Your town
   3. Nearby center (e.g., Raton, Las Cruces, etc.)
   4. New Mexico resort (please specify) _____
   5. Other (please specify) _____
6. Please indicate which month(s) would be the best time for you to leave your practice to attend CME.
7. Please indicate which day(s) would be the best time for you to leave your practice to attend CME.
8. Please indicate the optimum number of days you can spend to attend CME (not including travel time).
9. Please list CME topics you would like to see the UNM School of Medicine present:

   _____ _____

   _____ _____

*On a 1 to 6 Likert scale.

TABLE 2.—*The Most Important Reasons for Choosing CME Programs: % by Specialty (N=410)*

Specialty	Topic	Time of Year	Location	Cost
Family Practice	86	34	83	50
Internal Medicine	85	31	63	32
Pediatrics	92	36	80	54
Surgery	81	27	60	27
Obstetrics/Gynecology	80	52	80	33
Orthopaedics	80	23	61	15
Radiology	96	36	64	20
Emergency Medicine	100	35	64	45
Psychiatry	82	29	82	65

TABLE 3.—*Considering the Way You Learn Best, How Helpful Do You Find the Following Approaches to CME: % of Total Respondents (N=469)*

Learning Format	Not Helpful	Neutral	Very Helpful	No Response
Traditional slide/lecture	5	48	43	4
Seminar	11	40	42	7
Workshop with hands-on	9	30	51	10
Panel	18	55	20	7
Self-study	22	39	32	7
AV	25	49	20	6
Research papers	52	31	7	10
Teleconferencing	57	25	10	8
Small conferences	6	41	44	9
Large conferences	21	52	17	10

ary for CME programs. Pediatricians and emergency medicine physicians preferred the summer months; internists and surgeons indicated winter months other than December or January as most preferable. Friday, Saturday and Sunday were considered the best days. A conference lasting two to three days was felt to be optimum by most respondents.

Discussion

Results of this survey had obvious policymaking implications for the University of New Mexico School of Medicine. In addition, they provided feedback to departments and the OCPE.

One of the criticisms of CME programs is that the traditional educational format is often less than inspiring. It was interesting, therefore, that nearly half the respondents indicated a preference for the traditional lecture and slide format. It is debatable whether this is a well-grounded preference or the result of a lack of exposure of the physicians surveyed to alternative learning styles. In addition, most effective learning styles may differ from preferred learning styles.[6] Active learning experiences such as workshops and seminars emerged as very rewarding learning approaches. Passive learning modalities such as panels, research papers and audiovisual formats were considered less helpful by respondents. When asked about the potential of teleconferencing, which is now being used in many CME programs, most felt it would not be very helpful or, at best, felt neutral about this method. Small conferences were clearly preferred over large meetings.

Of particular interest to respondents were technically oriented short courses. These short courses, which emphasize an experiential rather than lecture format, have been designed to be held locally or at the university's School of Medicine. The most popular of these courses has been the week-long "mini-residency," in which practicing physicians design their own experiences at the School of Medicine. Also, there are reasons besides education for physicians to attend CME activities: relaxation and interaction with colleagues should be facilitated.

It is important for future planning to determine where physicians practicing outside of Albuquerque, the state's largest city, would prefer to attend CME programs sponsored by the University of New Mexico School of Medicine. Nearly half felt it would be highly desirable to come into Albuquerque to attend courses. About 53 percent asked for courses to be held locally; however, this runs counter to expressed desires for interaction with colleagues and relaxation away from daily practice. Considering the data, a mixture of courses held both locally and at the School of Medicine would be most desirable.

Several questions dealt with marketing data designed to help determine the best length of meetings, time of year and days of the week. In all specialties, physicians felt that the optimal meeting would begin on a Friday, last two or three days and be held at various times of the year except for December and January.

While specific topics are too numerous to describe in this paper, 112 separate topics were suggested by the 469 respondents as desirable for CME offered by the medical school.

We attribute the 72.4 percent return rate to several factors. The questionnaires were mailed first-class and addressed to individual physicians. A cover letter was included, personally signed by the Assistant Dean and department Chairs. These physician-administrators were in the position to make decisions based on the information supplied by respondents. The format of the questionnaire was a small booklet with questions that were relevant and easy to answer. Questions were both scaled (on a 1 to 6 Likert scale) and open-ended; comments were allowed at appropriate intervals. The survey was field tested to clarify possibly confusing questions and to determine the time needed for completion. The 15 physicians selected for the field test were typical of our larger sample and were accustomed to having an open dialogue with the School of Medicine. Finally, all responses were confidential.

Conclusion

The information learned from this needs assessment will enable the OCPE to work effectively with both the School of Medicine's faculty and the physicians practicing throughout the state. Because of the thoroughness of the study and its emphasis on marketing data, the faculty have become more willing to rely on the Office of CME to plan and implement their programs. By being responsive to what our state's practicing physicians want, we can provide more relevant, effective CME. In response to their request for self-study courses, we are developing individual learning packets. We are increasing the number of outreach programs to underserved areas to meet that expressed need. We plan to incorporate a variety of educational formats in different environmental settings for our CME programs, and offer numerous smaller courses for clinical participation as a result of the needs assessment reponses on learning styles. The results of the survey will be used by the New Mexico Medical Society and other medical education providers for use in planning their CME programs.

Both teachers and learners often become wedded to a subject-centered approach to education. The needs assessment is a continuous process of communication providing an avenue to develop a learner-centered approach to continuing medical education.

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