REGULAR ARTICLES

Continuing Education Market Analysis: An Example

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INTRODUCTION

Massachusetts pharmacists must accumulate 15 continuing education (CE) hours each year for relicensure. Starting in 1991, each of the approximately 6,000 pharmacists will be required to obtain at least 5 of these hours via a live CE program. If 100 pharmacists attend each live CE program of 5 hours' duration, a minimum of about 60 such programs per year will have to be offered in Massachusetts to provide an opportunity for pharmacists to obtain the necessary live CE hours. This presents a challenge to providers of continuing education programs to offer a sufficient number of high quality programs that are valuable to pharmacists. Under voluntary

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conditions, professionals—including pharmacists—in all settings attended live CE programs by choice and demanded high quality programs with topics of high preference, otherwise they would go elsewhere or not attend at all (1). Providers of pharmacy CE programs had to attract pharmacists. Under mandated situations, topics and CE conditions were more likely to be determined by pharmacy CE providers than by the pharmacists who needed to attend CE programs.

Pharmacists have various learning needs and preferences, and a needs assessment should be taken into consideration when a CE program (mandatory/or voluntary) is being planned (2). A needs assessment in this study consisted of identifying pharmacists' characteristics and using them for planning CE programs. These characteristics included the settings and positions in which pharmacists worked, as well as the number of years since graduation. Pharmacists also indicated their preferences among a list of potential program topics. This interest had little power in predicting participation in programs but was useful to a CE provider for planning programs with the greatest potential for attendance. This needs assessment was valid only for the next one- to two-year period.

In Massachusetts, a number of organizations, including the professional organizations and the colleges of pharmacy, now offer live CE programs. Participant feedback on topics of choice and preferred conditions was informal and minimal; therefore, the objective of this study was to perform a formal market analysis of CE condition preferences and CE topics of interest for pharmacists in Massachusetts who were employed in traditional settings.

METHODOLOGY

A random sample of pharmacists (about 1,000) practicing in Massachusetts was surveyed by mail during May 1990. The instrument included questions consisting of 4 demographics, 9 live CE program conditions, 54 topics of choice, and 34 deterrents (not addressed in this article). An initial mailing was followed up with two reminder mailings separated by one-week intervals. Data from returned completed questionnaires were analyzed using the Statistical Package for the Social Sciences® (SPSS^x).

Summary descriptive statistics were generated for demographic data and preferred live CE conditions. Topics of interest were measured as percentage of preference and were cross matched with demographic variables to identify topics of general interest as well as topics that were of interest only to population subgroups (market segments). The topics were also categorized into high, medium, and low interest, and within each category market segments were identified that showed significantly higher preference percentages than the rest of the general market. All inferential statistical findings were measured at a confidence level of .05 or less.

A separate study of pharmacists in Massachusetts attending live CE programs was used to determine where such pharmacists were employed and what positions they held (3). The live CE programs used were those held from September 1989 to June 1990 sponsored by Northeastern University (NU), the Massachusetts College of Pharmacy and Allied Health Sciences (MCP), the Massachusetts State Pharmaceutical Association (MSPA), the Boston Association of Retail Druggists (BARD), and those held from September 1988 to June 1989 sponsored by the Massachusetts Society of Hospital Pharmacists (MSHP). Each pharmacist was asked to complete a questionnaire yielding demographic information only once during the time frame, although a pharmacist may have attended several live CE programs.

RESULTS

Of the 1,000 questionnaires mailed, 111 were returned as undeliverable, and 291 were completed and returned. Three of the 291 returned were unusable. This yielded a response rate of 32.7%.

Demographics

Men represented 75% of the respondents. The average age for all respondents was 47.8 years, with a minimum of 25 and a maximum of 81 years. The average age was 50.6 for men and 39 for women. The places of employment for respondents in traditional settings were community pharmacies (45%) and hospital and institutional pharmacies (26.8%) (Table 1). The nontraditional settings were

TABLE 1. Percentage of Pharmacists Responding by Place of Employment

Organization	Percentage
Community pharmacy*	45.0
Hospital and institutional pharmacy†	26.8
Other†	28.2
Total count	288

*Chain and independent pharmacies
†Hospital inpatient and ambulatory pharmacy, HMO pharmacy, LTC pharmacy
†HMO corporate position, chain corporate position, industry sales and nonsales, education, government position, unemployed, retired, nonpharmacy-related position

pharmacy-related positions, retired, and nonpharmacy positions (28.2%). The largest number of respondents were employed as staff (42.3%), while 32% were supervisors and 11.6% were pharmacy owners (Table 2).

Preferred CE Conditions

Respondents showed no high interest in any particular type of faculty but preferred live CE programs 63.5% of the time (Table 3). Pharmacists were split between preferring weekday evenings and Saturday, each group showing about a 35% preference. The setting of choice was a hotel/conference center (53.7%). Pharmacists wanted a program that was one day or less long (78.8%) and preferred the lecture method of presentation (69.8%). Popular items to include with the CE program were lunch and a continental breakfast, but 35.8% wanted only the CE program. The ideal location for a CE program would be convenient to a pharmacist's home (76.8%), have free parking (57.2%), and provide a comfortable setting (53.3%). Pharmacists had no strong preference for a provider of CE programs.

Preferred Topics

The most preferred topic was new drug updates, with 85.6% of the pharmacists selecting this topic (Table 4). The other top ten topics of choice, in descending order, were pharmacy law, drug interactions, DEA regulations, therapeutics, health care topics, computer systems, Medicaid regulations, AIDS, and drug monitoring.

Percentage of Live CE Attendees

A total of 471 live CE attendees completed a demographic questionnaire (Table 5). Live programs given by MSHP were primarily attended by hospital pharmacists, and the group was equally divided between supervisors and staff pharmacists. The MSPA programs drew participants mostly from community pharmacies and had a high proportion of pharmacy owners. NU programs attracted pharmacists from both community pharmacies and hospital and institutional pharmacies in high percentages, of which a little over

TABLE 2. Percentage of Pharmacists Responding by Position

Position	Percentage
Owner	11.6
Supervisor*	32.0
Staff†	42.3
Other†	14.1
Total count	285

*Manager/director, assistant/associate director, supervisor, prescription department manager
†Employee, clinical pharmacist, consultant pharmacist
†Retired, unemployed, other

50% were staff. Attendees of MCP programs were mostly from community pharmacies, with a few from hospital pharmacies, and they also were primarily staff. The BARD programs drew mostly from community pharmacies and had good representation of both owners and staff pharmacists.

Market Differentiation

Among those topics of interest chosen by 30% or more of the respondents, 8 had no market segmentation, such as drug updates, pharmacy law, and AIDS (Table 6). However, many of the topics showed segmented markets by community pharmacy, such as Medicaid and DEA regulations; by hospital pharmacy, such as drug monitoring and computer systems; by supervisors, such as third-party plans; and by owners, such as third-party plans. Pharmacists in these segmented markets had significantly higher percentages of choices for the indicated topics than the total market.

Among those topics of interest chosen by 20%-29% of the respondents, 3 had no segmentation: business law, drug delivery systems, and ethics (Table 7). However, a large number of the topics were selected significantly higher by segmented markets. Community pharmacists showed a high interest in pharmacy management. Hospital pharmacists showed a high interest in quality assurance, clinical pharmacy, kinetics, and parenterals. Owners had high interest in pharmacy management, finance, inventory management, and OTC merchandising. Supervisors showed high interest in pharmacy management, finance, and quality assurance, while staff showed high interest in parenteral products, pharmacology, and others.

Among those topics of interest chosen by less than 20% of all respondents, 14 showed no market segmentation; these included, among others, cost of services, location analysis, and patient profiles (Table 8). Other topics were selected significantly higher by segmented markets. Community pharmacists had higher interest in pricing strategies, and hospital pharmacists had higher interests in handling chemotherapeutic drugs, DRGs, and justifying new services. Owners had high interest in cash management, pricing strategies, and managed health care. Supervisors had high interest in managed health care.

TABLE 3. Percentage of Preferred Conditions

Condition	Percentage	Condition	Percentage
Faculty		CE Type	
Peer pharmacist	14.8	Live	63.5
Other health personnel	25.4	Correspondence	18.2
College of pharmacy faculty	16.3	Journal article	11.6
No preference	42.8	No preference	3.9
Other	0.7	Other	2.8
Days of Week		Setting	
Weekday evening	35.1	Hotel/conference center	53.7
Saturday	35.5	No preference	33.3
No preference	7.8	Other	13.0
Other	21.6		

Length of Presentation

1-3 hrs.	21.6
1/2 day (4 hrs.)	31.8
1 day (8 hrs.)	25.4
No preference	12.0
Other	9.2

Included with CE Program

Lunch	64.9
Only CE	35.8
Continental breakfast	29.5
Overnight room	18.6
Dinner	17.2
Other	22.5

Provider of CE

College of pharmacy	22.9
Professional association	17.3
Pharmaceutical industry	18.0
No preference	35.6
Other	6.4

Presentation Method

Lecture	69.8
No preference	11.2
Other	18.9

Place Consideration

Convenient to home	76.8
Free parking	57.2
Comfortable	53.3
Convenient to work	29.1
Interesting place	23.2
Near public transportation	10.2
Other	3.5

TABLE 4. Rank and Percentage of Selection for Preferred Topics for All
         Respondents

Rank	Topic	Percentage	Rank	Topic	Percentage
1	New drug updates	85.6	28	Parenteral products/TPN	21.8
2	Pharmacy law	75.1	29	Business law	21.1
3	Drug interactions	62.8	30	OTC merchandising	20.4
4	DEA regulations	57.5	31	Pricing strategies	19.3
5	Therapeutics	44.6	32	Public health policies	18.6
6	Health care topics	42.8	33	Interprofessional relations	17.5
7	Computer systems	39.6	34	Prepare chemo. drugs	16.1
8	Medicaid regulations	37.5	35	Patient profiles	15.1
9	AIDS	37.2	36	Managed health care	14.7
10	Drug monitoring	36.8	37	P&T committee	14.4
11	Pain management	36.8	38	Justifying new services	14.0
12	Home health care	34.0	39	DRGs	13.7
13	Gerontology	34.0	40	Cash management	12.3
14	Nutrition	33.7	41	Managing people	11.2
15	Third-party plans	33.0	42	Accreditation	11.2
16	Pediatrics	30.5	43	Marketing/advertising	10.2
17	Pharm. management	29.8	44	Cost of services	10.2
18	Quality assurance	26.7	45	Pharmaco-socio	9.2
19	Pharmacology	26.7	46	Pharmacy layout	9.1
20	Clinical pharmacy	25.3	47	Buying a pharmacy	9.1
21	Cost-effectiveness	24.6	48	Nuclear pharmacy	8.4
22	Patient ed./self-care	23.9	49	Opening a pharmacy	8.1
23	Ethics	23.5	50	Selling a pharmacy	5.6
24	Kinetics	22.8	51	Drug development/marketing	5.3
25	Drug delivery systems	22.8	52	Location analysis	4.2
26	Financial management	22.8	53	Closing a pharmacy	3.9
27	Inventory management	22.1	54	Other	2.1

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TABLE 5. Percentage of Attendees by Live CE Provider by Place of Employment and
Position

Item	Live CE Provider*					% Total
	MSHP	MSPA	NU	MCP	BARD	
Place of Employment						
Community pharmacy	2.0	63.2	41.3	45.2	64.1	43.7
Hosp. & inst. pharmacy	85.7	3.0	34.2	21.7	18.0	28.6
Other	12.3	33.8	24.7	33.1	18.0	27.6
Position						
Owner	0.0	39.7	9.5	12.8	25.6	15.8
Supervisor	50.0	14.7	25.4	25.6	15.4	25.7
Staff	47.9	16.1	51.6	46.0	38.5	42.6
Other	2.1	29.4	13.5	15.5	20.5	15.9
Total count	49	68	126	189	39	471

*MSHP = Massachusetts Society of Hospital Pharmacists; MSPA = Massachusetts State Pharmaceutical Association;
NU = Northeastern University College of Pharmacy and Allied Health Professions; MCP = Massachusetts College of
Pharmacy and Allied Health Sciences; BARD = Boston Association of Retail Druggists

TABLE 6. Topics of High Interest (30% or More of All Respondents)

<u>Total Market Nonsegmented</u>

Drug updates	Topics in health care
Home health care	Nutrition
Pharmacy law	Pain management
Therapeutics	

<u>Segmented Market Percentage of Interest</u>

<u>Community pharmacies</u>

Interactions	-75.8%
DEA regulations	-72.7%
Medicaid regulations	-67.1%
Third-party plans	-50.0%
Gerontology	-39.0%
Pediatrics	-38.3%

<u>Hospital and institutional pharmacies</u>

Drug monitoring	-59.2%
Computer systems	-46.0%

<u>Supervisors</u>

Third-party plans	-40.7%

<u>Owners</u>

Third-party plans	-57.6%

DISCUSSION

Respondents strongly indicated that a preferred condition for attending a live CE program was a location convenient to their residence. To maximize this preference, CE providers should consider providing live CE programs in various areas of the state (local site). Beginning in 1991, all pharmacists will need at least five hours of live CE. Conceptually, a CE provider could hold the same live CE program several times at different local sites to bring the program close to home.

Closely associated with convenient location is the length of the program and the day of the week selected for the program, as well as the setting. A large percentage of the pharmacists have indicated their preference for a program that is one day long or less, held primarily on a Saturday or a weekday evening at a convenient hotel or conference center with adequate free parking. Live CE providers must optimize these conditions by holding day-long programs on Saturday and shorter programs during a weekday evening at a local hotel. Longer programs should only be used late in the year for those pharmacists who have waited until the last minute and must obtain most or all of their CE credits during one program. While pharmacists were primarily looking at the CE program, a continental breakfast, dinner, and perhaps refreshments during a break would be other inducements to attend a program.

CE providers must be cognizant of pharmacists' topic preferences if they wish to attract pharmacists to a live CE program. The use of marketing techniques to establish pharmacists' topics of preference must be an ongoing activity. The topics of choice developed in this study represent current choices but will go out-of-date within one to two years and must be updated. Using the data provided by this study, preferred topics of choice for the total market of pharmacists and for segmented markets can be used as guides to develop an interesting curriculum for the near future.

The topics of high interest should be exploited maximally, along with the medium interest segmented market topics. An undifferentiated medium interest topic should be used as only one of several topics. A low interest topic without market segmentation should be used only sparingly as one of several topics or not at all. Segmented

TABLE 7. Topics of Medium Interest (20%-29% Interest for All
        Respondents)

Total Market Nonsegmented

Business law   Drug delivery systems
Ethics

Segmented Market Percentage of Interest

Community pharmacies
Pharmacy management   -34.3%

Hospital and institutional pharmacies
Quality assurance   -60.5%
Clinical pharmacy   -59.2%
Parenteral products   -44.7%
Cost-effectiveness   -40.7%
Pharmacy management   -38.2%
Kinetics   -34.2%

Owners

Pharmacy management	-54.5%
OTC merchandising	-42.4%
Finance	-39.4%
Inventory control	-36.4%

Supervisors

Pharmacy management	-44.0%
Quality assurance	-38.5%
Finance	-34.1%

Staff

Pharmacology topics	-38.3%
Clinical pharmacy	-33.3%
Parenteral products	-32.5%
Patient education and self-care	-31.7%

TABLE 8. Topics of Low Interest (Less Than 20% Interest for All
Respondents)

Total Market Nonsegmented

Public health policies	Interprofessional relations
Pharmacy socioeconomics	Buying a pharmacy
Nuclear pharmacy	Location analysis
Cost of services	Pharmacy layout
Opening a pharmacy	Drug development/marketing
Profiles	Closing a pharmacy
Human resource management	

Segmented Market Percentage of Interest

Community pharmacies
Pricing strategies   -29.7%

Hospital and institutional pharmacies

P&T committee	-39.4%
Handling chemotherapeutic agents	-36.8%
Justifying new services	-31.5%
Accreditation	-27.6%
DRGs	-25.0%

Owners

Pricing strategies	-60.6%
Cash management	-33.3%
Marketing/advertising	-27.3%
Managed health care	-27.3%
Selling a pharmacy	-24.2%

Supervisors

Managed health care	-24.2%

low interest topics of choice should be used only in those situations when a CE provider expects to draw a specific kind of attendee, such as owners, hospital pharmacists, or staff. For example, MSPA and BARD attract primarily community pharmacists who are owners (although BARD also attracts a high percentage of staff). MSPA and BARD, in addition to topics of high interest, could emphasize topics such as OTC merchandising, finance, cash management, pricing strategies, and managed health care. BARD could also emphasize clinical pharmacy, pharmacology topics, and patient education for staff attendees. MSHP attracts primarily hospital pharmacists who are both supervisors and staff. MSHP, in addition to topics of high interest, could emphasize topics such as clinical pharmacy, parenteral products, kinetics, quality assurance, handling chemotherapeutic drugs, DRGs, and justifying new services, as well as some of those topics highly selected by supervisors and staff that are appropriate for the hospital setting. NU and MCP attract community and hospital pharmacists who are primarily staff. In addition to topics of high interest, these two organizations could emphasize pharmacology topics, clinical pharmacy, and patient education/self-care. This information could also be used to develop CE programs to attract a different type of attendee if the CE provider wished to change or broaden the type of pharmacist who attends the CE provider's programs. The applicability of the specific results of this study to pharmacists nationally is unknown because only pharmacists in Massachusetts were surveyed. However, the analytical procedure could be used in any setting.

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