

## RESEARCH ARTICLES

### Developing a Sustainable Faculty Mentoring Program

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**Objectives.** To develop a sustainable formal faculty mentoring program to support professional development of new faculty members at the Massachusetts College of Pharmacy and Health Sciences.

**Methods.** Program components included a mentorship subcommittee, faculty mentoring guidelines, protégé/mentor pairs, an orientation, seminars/workshops, and meetings between mentor/protégés pairs. Preparticipation and postparticipation questionnaires about the faculty mentoring program were used to assess changes in perceived level of abilities of protégés and mentors in areas of teaching, service, and scholarship.

**Results.** After 5 years, 93 protégés and 73 mentors have participated in the faculty mentoring program. Program evaluations were largely positive. Self-perceived abilities of protégés increased in all areas addressed, program self-study, faculty recruitment, grant application preparation, program development, and promotion process. Perceived abilities of mentors also showed some increases following the faculty mentoring program.

**Conclusion.** Both protégés and mentors can benefit from mentoring relationships. Faculty mentoring programs are important for faculty development and retention and achievement of academic and institutional goals.

**Keywords:** mentoring, faculty, academic pharmacy, teaching, service and scholarship, faculty development

## INTRODUCTION

Mentoring faculty members has been recognized as a significant component of faculty development and retention, and an important constituent of the academic environment. Mentoring, although an ancient art and inherent in all apprenticeships, has evolved to include many different sites, disciplines, and definitions. The type of mentoring and the involvement of the mentor with the protégé depend on individual definitions of mentoring. Although somewhat difficult to define, mentoring has been described as a relationship in which an individual who is senior in terms of experience (mentor) undertakes the following roles with a less experienced individual (protégé): advisor, teacher, protector, role model, advocate, counselor, and sponsor.<sup>1,2</sup> Two elements distinguishing mentoring from other academic relationships, such as teaching and supervising, are the reciprocity between

the mentor and protégé, and the achievement of an identity transformation by each party.<sup>3</sup> Both the mentor and protégé exchange ideas and mutually benefit from each other's experiences. The mentor is devoted to the transformation of the protégé into a fully integrated identity, separate from but equal to the mentor in the academic environment. The mentor's efforts focus on the protégé's career advancement and on psychosocial functions directed at enhancing the protégé's sense of competence, identity, and effectiveness in a professional role.<sup>4</sup>

Berger emphasizes the importance of transformation and reciprocity as goals for mentoring graduate students.<sup>5</sup> These same goals can be adapted to the mentoring of junior faculty members. The goal of transformation and reciprocity is one in which both the mentor and the protégé learn and grow from the experience.<sup>5</sup> Encouragement and honoring are important aspects of the mentoring process, where protégés are encouraged with understanding and honored by meeting them where they are and not where the mentor wants them to be. Expectations of both the mentor and the protégé should be clearly stated and understood by both parties. Mentors should involve protégés in challenging work that stimulates them to grow and develop as educators, while guiding them in achieving

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their goals.<sup>5,6</sup> Chalmers described mentoring as a guiding relationship founded on a genuinely caring attitude that respects a person's developmental potential to cultivate qualitative changes in their approach to tasks.<sup>6</sup> As a consequence of the reciprocal nature of the relationship, the mentor is regenerated and the protégé becomes a peer. In responding to the protégé's needs, the mentor is shaped by these experiences and becomes rejuvenated and may find a renewed purpose in his/her academic role.

There are many attributes that are essential for successful mentoring, including wisdom, caring, commitment, integrity, high expectations, a sense of humor, and the ability to act as a catalyst as important attributes of the mentor.<sup>7</sup> The mentor must have generosity of time coupled with a willingness to learn, an ability to trust, a spirit of praise and encouragement, and openness to the limitations of another.<sup>8</sup> The ability to identify qualitative changes in the protégé's approach to tasks rather than immediate productivity is important.<sup>9</sup> Furthermore, the mentor can recognize the potential of the protégé and encourage development of that potential.<sup>6,9,10</sup> While the willingness to sponsor, provide psychological support, and act as a role model<sup>11</sup> are desirable, Campbell cautions that mentors whose motives are selfish, pursue their personal agendas, and are not willing to be accessible should reexamine their ability to contribute effectively.<sup>4</sup> Other potential benefits and pitfalls of the mentor-protégé relationship have been pointed out by Haines.<sup>12</sup> Potential benefits for the mentor include enhanced self-esteem, a renewed approach to academic work, and an increase in job satisfaction; potential benefits to the protégé include a smoother transition into academic life and an increased likelihood of success. The potential pitfalls for the mentor include limited time to mentor and frustration if the protégé does not take his/her advice seriously. For the protégé, potential pitfalls may be that mentor does not keep commitments or that the mentor does not "let go" when the protégé has reached the stage of independence. The health care educational system has recognized the need for mentoring graduates who pursue advanced education and training (ie, residency and fellowship training) as well as academic faculty positions. The growth of academic pharmacy has been a recent focus of faculty mentoring<sup>4,5,6,13</sup> along with mentoring of pharmacy residents in the area of teaching and providing them with exposure to contemporary issues within academic pharmacy.<sup>14</sup> Faculty who are new to the academic setting typically have limited formal training in academia.<sup>6,13</sup> Although most newly appointed junior faculty members may have a general idea of what being a professor entails, they may be unaware of many important aspects of academic training.<sup>15</sup> Thus, there is an important need to fos-

ter an environment that will promote a successful start to a career as an educator and leader.

In particular, clinical educators often face challenges in transitioning to the tripartite mission of teaching, scholarship, and service as increasing demands are placed on them by the health care systems in which they maintain practice sites. In 2000-2001, pharmacy practice was the largest faculty discipline in academic pharmacy (3.8 times more full-time faculty members than each of the next 3 largest disciplines).<sup>16</sup> Several challenges exist in recruiting qualified pharmacy practice faculty members. The results of the American Association of Colleges of Pharmacy 2003 Survey of Vacant Budgeted and Lost Faculty Positions revealed that 51.3% vacant positions by primary appointment were in clinical science/practice disciplines (includes non-shared, shared, and lost positions).<sup>17</sup>

Therefore, since retention of faculty members can be problematic, professional development of faculty members warrants serious attention. The demands on the new faculty member to establish a practice site while transitioning to other responsibilities of the faculty position can be overwhelming. In addition, new faculty members may have limited experience in conducting research independently.<sup>18</sup> Thus, it is important to consider a formalized plan for faculty mentoring to support the development of new and junior faculty members as researchers and academicians.

A nationwide survey by Wutoh et al was conducted to determine the existence and extent of faculty mentoring programs at US colleges and schools of pharmacy.<sup>13</sup> Of the 77% of colleges and schools that responded (78 colleges of pharmacy and 60 schools of pharmacy), 18% indicated the existence of a formal mentoring program, and 53% indicated the existence of an informal mentoring program at their academic institution. Formal mentoring programs were defined as those that included written procedures and possibly a plan of evaluation; informal programs were those that facilitated the matching of a mentor with a protégé but lacked any written procedure or evaluation process. Interestingly, only 24% of deans indicated that their faculty mentoring program was used as a part of the recruitment process to attract prospective new junior faculty members to the school of pharmacy. More recently, a study conducted by MacKinnon investigated pharmacy administrator and dean perceptions toward faculty development in academic pharmacy.<sup>19</sup> A 57.1% response rate among the 320 pharmacy administrators surveyed and a 63.8% response rate among the 80 deans surveyed from 80 US colleges and schools of pharmacy was achieved. The majority of those surveyed agreed that the appropriate period for faculty development starts

early in the appointment of a faculty member. Administrators' preferences for faculty development topics during a faculty member's first academic appointment were time management, overview of the promotion and tenure process, grant writing, and developing a research agenda/focus.<sup>19</sup>

Another study by MacKinnon investigated the attitudes and experiences of pharmacy educators towards faculty development programs.<sup>20</sup> Six hundred faculty members were randomly surveyed, with a response rate of 38.3%. Approximately one quarter of faculty members responded that there were faculty development programs for newly hired faculty members and all other faculty members at their institutions. In terms of motivation for new faculty members to pursue faculty development, the main priorities were to improve teaching skills, the quality of their work, and their research skills. In terms of initiatives and delivery options, the most desirable topics during a faculty member's first year were grant writing, evaluating learning, overview of the promotion and tenure process, and developing effective lectures. The most preferred method of instructional delivery of faculty development programs were live seminars, followed by computer-assisted Internet instruction. This study highlights the importance of faculty development and mentoring for new faculty members, attitudes by faculty members towards development, and methods of instructional delivery.

The Massachusetts College of Pharmacy and Health Sciences (MCPHS) is a private institution comprised of the School of Pharmacy-Boston, School of Pharmacy-Worcester, School of Arts and Sciences, School of Health Sciences, and the Divisions of Instructional Resources and of Graduate Studies. The faculty body is diverse, representing a variety of educational backgrounds (ie, pharmacy practice, pharmaceutical sciences, physician assistant, radiologic sciences, dental hygiene, liberal arts, and nursing) comprising different levels of experience in teaching, scholarship and research, and service. Historically, support for faculty development has been an important focus within the College. An institution-wide faculty development committee sponsors workshops and seminars that foster the professional development of faculty members. However, faculty mentoring was not formalized and relied primarily on the faculty to establish mentoring relationships among themselves. In 1998, a revised edition of the *MCPHS Faculty Manual* sanctioned development of a mentoring program for faculty members that involved "peer advisory teams." This program would provide each probationary faculty member with 2 mentors devoted to providing systematic and ongoing advice

and support. (Probationary faculty members are appointed for a 4-year probationary period at the Assistant Professor rank.) Simultaneous to the release of the faculty manual, 2 committees, the faculty council (a committee that advises the Vice President for Academic Affairs, the President, and the Board of Trustees on all matters affecting the faculty), and the faculty development committee, recognized the importance of establishing a formalized faculty mentoring program that would focus on the needs of new faculty members during their first academic year at the College. This type of mentoring program would support a sustainable mentoring process for faculty members during subsequent years.

## **METHODS**

The elements of the faculty mentoring program consisted of the following: a mentoring subcommittee; faculty mentoring guidelines; pairing a new faculty member (protégé) with a senior faculty member (mentor) and individual meetings between protégés and mentors; an orientation program at the start of the academic year; monthly seminars/workshops throughout the academic year; and an end of the year workshop.

The formation of a committee to focus on this major mentoring initiative was a key step to achieving the goals that followed in program development. Representatives of the Faculty Council and Faculty Development Committee established a joint faculty mentorship subcommittee and charged it with designing, implementing, and evaluating a formalized faculty mentoring program that would support the academic career development of new faculty members and provide a means for a sustainable mentoring process in the following years. The mentorship subcommittee members reviewed the literature on faculty mentoring and mentoring programs at academic centers of excellence. Subcommittee members decided to establish an institution-wide faculty mentoring program that would involve participation from faculty members in all academic programs and that would support the mission and goals of the College and academic units. Mentoring program guidelines were developed to support the mentoring process that included the goals and objectives of the program (Table 1), criteria for mentors (Table 2), and logistics, as well as goals for mentoring protégés in the areas of teaching, scholarship, and service (Table 3). The mentorship subcommittee requested approval from the faculty for a "pilot" offering of the formalized faculty mentoring program which would target new faculty members beginning their first academic year at MCPHS. The new faculty member would participate in the faculty mentoring program for 1 year and then transition into the previously mentioned peer advisory team in order to

Table 1. Faculty Mentoring Program Goals

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- (1) Orient new faculty members to the administrative structure, councils and committees, academic support services, academic calendar, and student advising practices of the Institution
  - (2) Facilitate the process of faculty development using faculty mentor/protégé pairs
  - (3) Offer advice and counsel about academic career development, and facilitate access to other institutional resources important to early forward movement
  - (4) Identify internal or external seminars and workshops on teaching (eg, didactic teaching, service-learning, and teaching effectiveness evaluation), scholarship (grant-writing), and service to support faculty development
  - (5) Build a database through surveys and questionnaires to better understand and respond to the needs of new faculty and mentors, and to evaluate and refine the faculty mentoring program
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foster a continuity of the mentoring process. Following 2 years of pilot offerings of the faculty mentoring program, the Faculty Council and Academic Council approved the faculty mentoring program. The academic leaders at MCPHS provided significant support for implementation of the program.

The mentoring program guidelines were distributed to all faculty members prior to the start of the faculty mentoring program. The mentorship subcommittee invited senior faculty members to serve as mentors to the new faculty (protégés) participating in the program. Each protégé was paired with 1 mentor. Department chairs assigned the protégé-mentor pairs with input from the mentorship subcommittee. Mentors were not paired with protégés based upon similar expertise, but rather on the overall ability of the mentor to guide the protégé in achieving the goals of the faculty mentoring program related to teaching, service, and scholarship. Protégés were also encouraged to seek additional mentors within their expertise for collaboration in research across departments and within clinical practice sites, as well as the scientific and academic community. It was recommended that mentoring pairs meet at least monthly in addition to other mentoring activities based on the individual needs of the protégé. The mentor/protégé pairs were encouraged to create their own schedules to best meet the needs of each protégé. Mentors and protégés were also encouraged to utilize other modes of communication (eg, e-mail, telephone calls).

At the start of each academic year, mentor-protégé pairs were invited to an orientation luncheon and workshop organized by the mentorship subcommittee. The

orientation was designed to introduce the protégés to the goals and objectives of the faculty mentoring program and to provide protégés with information regarding institutional support. Various academic leaders (ie, President, Provost/Vice President of Academic Affairs, Deans, Chairs) and representatives of faculty and student committees and organizations (eg, promotion committee, faculty council, academic advising, academic support, counseling, etc) introduced themselves and provided a brief overview of their role at the College.

The mentorship subcommittee also selected resources on teaching, service, and scholarship that were distributed to the protégés at the orientation. Documents such as the faculty mentoring program guidelines, an organizational chart of the College, promotion guidelines, and information on academic support services were included. During the orientation, protégés were asked to introduce themselves and to provide a brief background on their discipline and area of training. The orientation also included time for interactive discussions on the topic of mentoring among participants. As part of the orientation each protégé and mentor received a preparticipation questionnaire assessing their perceived level of ability in various aspects of teaching, scholarship, and service. This survey instrument used at the workshop was modified slightly after the second year to address additional areas of faculty development such as teaching methodology and leadership skills. The revised questionnaire was used for all subsequent offerings of the faculty mentoring program.

Following the orientation, approximately 10 workshops and programs were offered throughout the year

Table 2. Criteria for Mentors

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- At least 4 years of academic experience or have completed an equivalent mentorship experience
  - The mentor must be motivated and committed to the goals of the program and able to devote adequate time and effort, required for a successful mentorship experience
  - The Mentorship Subcommittee requests feedback twice annually in the assessment of the program
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Table 3. Goals for Mentoring\*

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**Classroom Management**, including learning styles, teaching techniques, examination writing, instructional resources, course design, course objectives, and use of feedback from course evaluations

**Assessment of Teaching Effectiveness**, including formative assessments; peer observation and feedback; review of syllabi, handouts, overheads, and exam questions before delivery; and course coordination expectations

**Examination Skills Development**, including academic honesty policy, examination development, test item writing (multiple choice and essay), item analysis and data interpretation, constructive feedback on examination questions before administration, strategies for grading essays, and tying the testing process to course objectives

**Development and Maintenance of Practice Site**, including precepting and evaluation skills for new faculty, role modeling, documentation requirements for practice sites, criteria for student performance assessment, techniques and standards of health care services provided

**Scholarship**, including definition of “scholarship,” professional writing skills, proposal preparation for funding, options for communicating scholarly activities, and methods to connect scholarship with teaching

**Service**, including roles that encompass service activities at the school-level and college-wide levels, as well as service for practice sites, community, and profession

**Balancing Obligations** within the academic career, including teaching, scholarship, service, and practice site (if applicable); personal and professional life

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\*These goals were provided as areas to guide mentors and protégés; mentors and protégés could design additional goals based upon individual needs of the protégé

either by the faculty development committee or the mentorship subcommittee. Since the mentorship subcommittee had representatives who were also members of the faculty development committee, clear communication and planning occurred between both committees. The monthly seminars and workshops were led by faculty members with expertise in the specific topic. Some faculty mentors and members of the mentorship subcommittee or faculty development committee led workshops or seminars and others were led by non-mentors or non-committee members. All programs were offered in a live and interactive-discussion format, although some of the workshops/seminars were videotaped for faculty members who had scheduling conflicts and were unable to attend the workshops. Table 4 lists workshops that were offered during the academic year, including an annual required off-campus “faculty development day” program.

The mentorship subcommittee, faculty development committee, and mentors encouraged protégés to

attend all programs. Mentors were also encouraged to attend the sessions with protégés. The exact number of participants per program varied, but overall the seminars and workshops were well attended. At the end of each seminar/workshop, participants were asked to complete an evaluation form regarding the quality and utility of each program, along with questions regarding what they liked most and least about it. All faculty members were also asked to suggest specific topics that they thought would be useful for future seminars. The evaluation forms were reviewed by the mentorship subcommittee and faculty development committee, and the feedback was utilized in the selection and design of future workshops and to improve the quality of the programs.

At the conclusion of the academic year, mentors and protégés were invited to a spring luncheon and workshop that was sponsored by the mentorship subcommittee and served as a wrap-up for the year. This half-day event included a keynote presentation by an expert on an

Table 4. Examples of Workshop and Seminar Topics

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Grant Writing	Classroom Management
Examination Writing	Leadership
Cultural Diversity	Active Learning in Large Classrooms
Curriculum Revision	Creative Teaching Techniques
Critical Thinking	Faculty Development Day
Problem-Based Learning	Service-Learning
Internet Teaching Tools/Online Learning	Communication Skills
Classroom Management	Mentoring Training and Information Workshop
Promotion	Statistical Graphing

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academic topic of value to new faculty members. The program also included small group activities that provided the opportunity for mentors and protégés to share their experiences from the past year with other pairs. Mentors were recognized and awarded certificates of appreciation for their commitment to mentoring faculty members. At this spring gathering, protégés and mentors were again asked to fill out the same questionnaire assessing their perceived postparticipation abilities in various areas related to teaching, scholarship, and service. All of the evaluations used in the faculty mentoring program were completely anonymous and confidential, and did not ask the individual filling it out to identify themselves in any way other than “mentor” or “protégé”. Survey instruments and questionnaires used were also reviewed by the MCPHS Institutional Review Board for issues of confidentiality. For the preparticipation and postparticipation questionnaires it was necessary to match the pre and post responses to the same respondent. In order to accomplish this, each survey instrument was coded with a unique identifier number. The key to these identifier numbers was not seen by anyone involved in the faculty mentoring program. Responses were tabulated by a third party who likewise had no association with the faculty mentoring program.

## RESULTS

Since its inception in 1999, 93 new faculty members (protégés) and 73 mentors have participated in the faculty mentoring program at the MCPHS. During the 5 years that the faculty mentoring program has been in place at the College, there was a dramatic increase in the number of pairs participating, especially during the 2001-2002, 2002-2003, and 2003-2004 academic years (Table 5). With the last 3 offerings of the program, the number of protégé and mentor pairs increased to greater than 20 per academic year (21 in 2001-2002; 37 in 2002-2003, and 21 in 2003-2004). During the first 2 years of the program, all participants were from the Boston campus. As the College added campuses in Worcester and Manchester, in 2000 and 2002 respectively, a significant number of participants also came from those campuses. Mentor and protégé participants in the faculty mentoring program came from all 4 Schools (Pharmacy in Boston and Worcester, Health Sciences, and Arts & Sciences) within the College as well as from the Division of Instructional Resources. Of the total number of protégés participating, 57% were pharmacy faculty members (53/93) and the majority of pharmacy faculty protégés (85%) were members of the pharmacy practice department (45/53). While most mentor volunteers

served as a mentor to 1 protégé, some senior faculty members were asked and willing to serve as mentors to 2 protégés within a given year. Approximately 98% of faculty members who were asked agreed to serve as mentors, which was integral to the implementation of the program. Of the total number of mentor participants, 67% were pharmacy faculty members (48/72), of whom 81% (39/48) were members in the pharmacy practice department. In recognition of the commitment, time, and effort involved in mentoring, the academic leaders of the College agreed to provide workload credit in the area of service to all faculty mentors.

The feedback from program participants for the orientation and workshops/seminars, as well as the overall program, were largely positive. Tables 6 and 7 summarize feedback provided by faculty mentoring program participants indicating that the orientation workshops were well received. The results of the preparticipation and postparticipation questionnaires are provided in Table 8. The cohort used was those participants who completed the program in years 3 through 5, when the revised questionnaire was used. A total of 32 protégés and 16 mentors completed both the preparticipation and postparticipation questionnaires during these years. As expected, the perceived level of ability of protégés was markedly lower in all areas than that of their mentors. The areas in which protégés felt least confident were program self-study and faculty recruitment, followed by preparation of grant applications, program development, manuscript writing, curriculum revision, and the academic promotion process. Following completion of the faculty mentoring program, the self-perceived ability of protégés increased in all areas addressed. The overall preparticipation versus postparticipation means using paired *t* test for protégés was  $2.68 \pm 0.15$  vs  $3.55 \pm 0.17$  and was statistically significant at  $P < 0.003$ . The difference between preparticipation and postparticipation overall mentor averages ( $3.92 \pm 0.26$  pre vs  $4.12 \pm 0.27$  post) was not statistically significant. Interestingly, the perceived abilities of mentors also showed some increases, though not statistically significant following the faculty mentoring program, particularly in the areas of new syllabus and course development, as well as examination design, curriculum revision, and student advising.

The feedback regarding workshops and seminars from participants was useful in enhancing future programs. Table 9 provides a comparison of scores for workshops in the areas where protégés demonstrated some improvement according to responses on preparticipation and postparticipation survey instruments. All postparticipation values are significantly higher than

Table 5. Summary of Faculty Participants in the MCPHS Faculty Mentoring Program

Year	Protégés, No.	Schools or Department	Mentors, No.	Schools or Department	Campus
1999-2000	7	6 from PP	6	5 from PP	All participants from Boston campus
2000-2001	7	1 from PS 3 from PP	7	1 from AS 3 from PP	All participants from Boston campus
2001-2002	21	1 from PS 2 from N 1 from RS 12 from PP	15	2 from AS 1 PS 1 RS 9 from PP	26 participants from Boston campus
2002-2003	37	3 from PS 4 from IR 1 from AS 1 from PA 15 from PP	24	2 from PS 2 from AS 1 from RS 1 from N 13 from PP	39 participants from Boston campus
2003-2004	21	2 from PS 2 from IR 4 from AS 7 from PA 7 from DH 9 from PP	20	3 from PS 7 from AS 1 from RS 9 from PP	15 participants from Worcester campus
		1 from PS 1 from IR 1 from AS 5 from PA 4 from DH		1 from IR 3 from AS 1 from RS 1 from DH 2 from HS	7 participants from the Worcester campus 3 participants from Manchester campus

PP = Pharmacy Practice; PS = Pharmaceutical Sciences; AS = Arts & Sciences; IR = Instructional resources; PA = Physicians Assistant; RS = Radiologic Sciences; N = Nursing; DH = Dental Hygiene; HS = Health Sciences

preparticipation by paired *t* test at the  $P = 0.05$  level minimum. Changes in some variables such as curriculum revision ( $p < 0.001$ ), promotion ( $p < 0.01$ ), and creative teaching ( $p < 0.01$ ) are more significant. Although the workshops and seminars cannot solely be attributed to the improvements in scores, the workshop topics appeared to target the needs of the protégés and potentially may have had some impact on specific

perceived abilities of protégés. In addition to programs directed toward new faculty members, during the 2002-2003 academic year, a new training workshop was instituted specifically for new mentors. This workshop was led by experienced mentors and was designed to provide guidance to new mentors on how to be a successful mentor. The workshop also allowed current mentors to share their experiences and exchange advice on the

Table 6. Summary of Faculty Mentoring Program Orientation Survey Results

Questions	Rating		
	2001	2002	2003
This orientation session made me feel welcome to MCPHS	4.67	4.73	4.81
The faculty mentoring program was explained clearly	4.17	4.73	4.57
The introductions to various people and their roles were helpful	4.00	4.60	4.71
I am aware of contacts for student support services	4.42	4.73	4.71
I understand the role of the various faculty support services	4.25	4.47	4.43
Overall, this orientation program was informative	4.33	4.73	4.81

Scale = 1-5, with 5 being the most favorable  
 N = 21 (mean number of responses for each of the three years)

mentoring process. Mentors completing this particular program were also given a detailed evaluation form that rated the program and that asked the mentors to provide suggestions for future improvements and topics. Feedback from new mentors regarding the training workshop was very positive and most participants indicated it was helpful to them.

After 2 years of offering the program, the mentorship subcommittee asked faculty participants (both protégés and mentors) for feedback regarding the overall program and ways to improve the faculty mentoring program. For the 1999-2000 year, 54% of faculty participants responded, and for the 2000-2001 year, approximately 85% of faculty participants responded. Respondents for both years represented about 50% mentors and 50% protégés. Table 10 provides a summary of comments regarding the faculty mentoring program and suggestions for improvement.

Table 7. Summary Comments From Participants at Orientation

Aspects of Program Participants Liked Best	Suggestions for Improvement
<ul style="list-style-type: none"> <li>● Very well organized, timing was perfect</li> <li>● All aspects, speakers were excellent</li> <li>● Self-introduction of new faculty</li> <li>● Being given a chance to meet with various departments and new faculty</li> <li>● Being able to put a face to a name</li> <li>● Discussion of mentoring issues</li> <li>● Introduction to all departments and Schools; meeting new people</li> <li>● Meeting other new faculty</li> </ul>	<ul style="list-style-type: none"> <li>● Arrange for the mentor-protégé to sit together at the orientation luncheon</li> <li>● Facilitate introductions of mentor- protégé pairs</li> <li>● Assign seating to promote interdisciplinary interaction among faculty from different professions and disciplines</li> <li>● Incorporate question and answer session for mentors and protégés</li> <li>● Define expectations of mentor and protégés</li> <li>● Provide a little bit more specific information about mentoring</li> </ul>

Protégés completing the 1-year faculty mentoring program transitioned into the peer advisory team, which was designed to provide continuity within the mentoring process. If the protégé decided that he or she would like to continue with the same mentor, the mentor had the option to continue as one of the members of the peer advisory team. Another faculty member or outside academician, clinician, or researcher was added as an additional mentor. If the protégé decided that the mentoring relationship with the mentor assigned during the faculty mentoring program was not beneficial, 2 new mentors could be selected for the peer advisory team. The long-term plan for mentoring supports the stages of mentoring as described by Haines that can occur years following the initiation phase of the relationship (cultivation, separation, and transformation).<sup>12</sup> One of the challenges in maintaining consistent mentor and protégé pairs is the retention rate of mentors at the College. In some cases, mentors who resigned from the College needed to be replaced by new mentors and the mentorship relationship began in one of the later academic years with the new mentor. For those mentor and protégé pairs in which the mentor and protégé both remained at the College, data are available for the School of Pharmacy-Boston. Approximately 62% of protégés chose to continue with their mentors after 1 year in the faculty mentoring program.

Although it is premature at this point to know the potential long-term impact of the program on the retention rate of faculty members, the current retention rate of faculty participants who were protégés in the program during the 5 years of offering, among all schools and disciplines is 72% (67/93). Within the School of Pharmacy-Boston (Pharmacy Practice and Pharmaceutical Sciences), there has been a retention rate of 79% of faculty protégés. The retention rate of protégé participants will be followed in the upcoming years to determine the long-term impact.

Table 8. Questionnaire Responses From Mentors and Protégés Regarding Their Perceived Level of Ability Prior to and After Completing a Faculty Mentoring Program

Questionnaire Item	Response*			
	Protégés		Mentors	
	Pre <sup>†</sup>	Post <sup>†</sup>	Pre <sup>†</sup>	Post <sup>†</sup>
1. Develop course syllabi inclusive of objectives, topic outlines, learning activities, and reading assignments	3.53	4.09	4.75	4.90
2. Develop a new course	2.83	3.56	4.50	4.70
3. Develop objective measures of students' clinical or classroom performance	3.33	3.78	4.44	4.45
4. Effectively manage difficult students in the classroom setting	2.87	3.63	4.25	4.25
5. Incorporate critical thinking and/or problem based learning	3.63	4.00	4.38	4.50
6. Design examinations to measure student knowledge	3.40	3.81	4.19	4.60
7. Coordinate a program of self-study for accreditation	2.13	2.75	3.25	3.25
8. Coordinate the processes associated with faculty recruitment and selection	2.10	3.00	3.88	3.95
9. Undertake curriculum revision through continuous quality improvement	2.67	3.53	3.94	4.15
10. Engage in strategic planning associated with program development	2.63	3.41	3.50	3.60
11. Develop culturally sensitive learning experiences for students	3.07	3.31	3.50	3.60
12. Initiate creative teaching techniques	3.37	3.81	4.19	4.35
13. Address issues of student discipline	2.90	3.63	4.38	4.40
14. Effectively manage issues of student academic performance	3.10	3.63	4.56	4.60
15. Prepare manuscripts for submission to a peer-reviewed journal	2.77	3.63	4.25	4.50
16. Prepare papers/posters for presentation to scholarly or professional audience	3.53	3.94	4.56	4.60
17. Generate grant applications for submission to funding agencies	2.27	2.78	3.50	3.70
18. Engage in educationally related research activities	3.00	3.38	4.06	4.10
19. Understand the academic promotion process	2.77	3.25	4.63	4.40
20. Advise students about course selection and career options	2.87	3.72	4.56	4.80
21. Demonstrate effective leadership abilities	3.50	3.94	4.69	4.65

Adapted from original survey instrument that was developed by Carl Fasser, PAC, and J. David Holcomb, EdD, Baylor College of Medicine

\*Responses were based on a scale of 1-5 on which 1 indicated the lowest level of perceived ability and 5 indicated the highest level of perceived ability

<sup>†</sup>The survey instrument was administered to protégés and mentors at the start (preparticipation) and end of the academic year (postparticipation)

## DISCUSSION

Based on published data, the Massachusetts College of Pharmacy and Health Sciences is in the minority among colleges and schools of pharmacy in that it has a formalized mentoring program as part of an extensive faculty development plan.<sup>13</sup> A major contributing factor

to the success of the faculty mentoring program at MCPHS was the vision and commitment of the mentorship subcommittee, the unwavering support of the School of Pharmacy-Boston leadership and the other schools and divisions, as well as that of the College administration as a whole. The President and Provost of the College

Table 9. Impact of Faculty Development Workshops on Perceived Abilities of Protégés (N = 32)

<b>Workshop</b>	<b>Score Before Faculty Mentoring Program</b>	<b>Score After Faculty Mentoring Program</b>
Grant writing	2.27	2.78
Curriculum revision	2.67	3.53
Critical thinking	3.63	4.00
Examination writing	3.40	3.81
Leadership	3.56	3.94
Understanding the promotion process	2.77	3.25
Creative teaching techniques	3.37	3.81

attended all of the major mentoring gatherings and provided financial support for the events. The support and attendance of senior academic and administrative leaders in the faculty mentoring program gave the program a necessary legitimacy and highlighted the overall importance of the program within the College infrastructure. The Provost/Vice President for Academic Affairs participated in all of the mentoring events and also provided each protégé with a book, *Advice for New Faculty Members*.<sup>21</sup> The commitment and monetary investment by the College directed in the faculty mentoring program is time and money well spent. Since well-adjusted and successful new faculty members are more likely to remain with the College long term, the program is cost-effective for the institution, especially considering the high cost of recruiting replacements.

The willingness of senior faculty members to serve as mentors was also vital to the continued success and rapid growth of the faculty mentoring program. Requests for mentors at the beginning of the academic

year were generally met with an excellent response from senior faculty members. Serving as a mentor also offered senior faculty members the opportunity to earn service credits and participate in activities that could be included in their annual activity reports and promotion dossiers. As stated previously, some faculty members were willing to mentor more than one protégé, which was necessary given the growing number of junior faculty members within the institution. Considering the commitment and time required to effectively mentor new faculty members, along with other faculty responsibilities, it is important to consider the workload of mentoring and to identify an adequate number of mentors for the program.

In departments with large numbers of junior faculty members in comparison to senior faculty members, identifying an adequate number of mentors is challenging. Mentors may be selected across disciplines to promote interdisciplinary collaboration; in our experience this has proved to be beneficial in some cases. However, we

Table 10. Faculty Mentoring Program Participants Feedback on Strengths and Areas for Improvement\*

<b>Strengths</b>	<b>Areas for Improvement</b>
<ul style="list-style-type: none"> <li>● All of the sessions were very helpful. It was important for us to be able to meet with a mentor on a regular basis</li> <li>● The mentoring program has reduced the new faculty member's reluctance to ask questions and to seek advice from their mentors</li> <li>● The faculty mentoring program facilitated the process for mentoring and gave the protégé a "safe" referral for assistance if needed</li> <li>● Senior faculty involvement as mentors is invaluable and provides the opportunity to find out more about those things that are unwritten and important aspects of being a faculty member</li> <li>● The assignment of one on one (mentor/protégé) pairs was very helpful</li> </ul>	<ul style="list-style-type: none"> <li>● Consider better matching of mentors with new faculty needs</li> <li>● Provide additional training for mentors</li> <li>● Improve communication between Mentorship Subcommittee; mentor-protégé pairs provide brief, periodic reports to mentorship subcommittee on progress</li> <li>● Invite outside speaker to give a presentation on mentoring for both mentors and protégé to get the most out of the experience</li> <li>● Create a workshop on developing a portfolio for promotion</li> <li>● In addition to a faculty mentoring program orientation which focuses more on academic support, provide an orientation process for new hires</li> <li>● More information on committees, role of faculty members on committees and process entailed with committee work</li> </ul>

\*Summary of feedback from participants in the faculty mentoring program during the 1999-2000 and 2000-2001 academic years

have also faced obstacles with some interdisciplinary mentor/protégé pairs. If the protégé's needs concern mentoring on general pedagogy or learning about the institutional culture, interdisciplinary pairs may be successful. However, if a protégé needs or wants mentoring on scholarship within their academic domain, then cross-disciplinary mentoring may be less likely to work. This area warrants further attention, and we will continue to explore options for arranging mentor/protégé pairs.

The faculty mentoring program has also proven to be an effective recruiting tool for new faculty members since it affords them opportunity to pair with a senior faculty member, to learn the culture of the institution, and to facilitate the socialization process. The protégés can benefit from the experiences of an established academician, which may increase their chances for early success and reduce the stresses often associated with starting a new academic position. The mentor can also assist the protégés by making explicit what is implicit within an institution. Often, new faculty members find it difficult to understand the best approach to take in handling a situation if they do not take into account the culture and unique aspects of the institution.

Results from the preparticipation and postparticipation questionnaires on perceived abilities of both protégés and mentors were informative. As expected, protégés scored considerably lower than mentors in most categories before participating in the faculty mentoring program. One exception was in the area of fostering student critical thinking, where protégés tended to rate their abilities fairly high. This might reflect some prior academic experience or an emphasis that was placed on critical thinking in their own academic training. Even though protégés felt their ability to stimulate critical thinking was high prior to participating in the faculty mentoring program, their perceived ability still increased on the postparticipation questionnaire. Following participation in the program, the perceived abilities of protégés in all areas increased, particularly in areas in which specific faculty development programs had been offered. Interestingly, although the faculty mentoring program was not designed for mentors, the perceived abilities of senior faculty members on the postparticipation questionnaire likewise increased in a number of areas. This may be related to the significant participation of mentors in a number of pertinent faculty development programs offered in conjunction with the program.

The feedback received from mentors and protégés after 2 years of offering the faculty mentoring program was useful in revising aspects of the program (Table 10). Faculty participants requested more seminars for protégés and mentors throughout the year and requested greater

interaction among participants at the seminars. Protégés requested a specific workshop on portfolio development and the promotion process. The mentorship subcommittee has implemented enhancements in the program and continues to assess the program and make changes accordingly.

While all of the survey data and feedback obtained to date from mentors and protégés points toward the faculty mentoring program being successful, quantifying the beneficial effect of the program on faculty performance and long-term success is still difficult. In a 2000 study by Wutoh, 58% of the pharmacy schools that were surveyed reported that they had no easily measurable evaluation tool for the success of their mentoring programs.<sup>13</sup> The specific questionnaire we used to gauge improvements in various areas was based on the "perceived" abilities of the person completing it. It may be possible in the future to use more concrete measures of faculty success such as teaching evaluations, numbers of publications, grant applications/awards, and promotion. These criteria might also prove an effective means of tracking the long-term impact of participating in a faculty mentoring program, particularly if one could use a two-arm study comparing these criteria to a control group of new faculty members who did not participate in the program. Another difficulty encountered in gauging the impact of the faculty mentoring program on new faculty members was differentiating between the role the program played in increasing new faculty members' perceived abilities versus the role that 1 year's experience as a faculty member played in increasing their perceived abilities.

As we look to the maturity of the faculty mentoring program, there are a number of potential enhancements we may consider in the coming years. One would be to devise more concrete measures for assessing the impact of the program on faculty success and retention. Part of this enhanced assessment might include long-term follow-up of faculty members who have participated in the program. Another idea is to incorporate the development of teaching portfolios as part of the faculty mentoring program. This would enable protégés to begin the development of teaching portfolios to assess their development in the area of teaching during their early academic careers. These portfolios can be continued throughout each academic year, reflecting the accomplishment of goals that are stated within annual individual growth plans and can be useful in preparing for promotion. We would also like to increase training and expand development programs for new mentor training. Both new and experienced mentors can benefit from group sessions to share effective mentoring strategies and discuss ways to overcome challenges and pitfalls in mentoring.

The faculty mentoring program was designed as an institution-wide mentoring program. Given some of the specific needs of various disciplines, some academic units decided to design additional development programs and/or workshops. For example, in the Department of Pharmacy Practice, new faculty members have specific needs in the area of practice site development, serving as a preceptor at the practice site and balancing other responsibilities. Therefore, a pharmacy practice development program was designed with input from Department faculty members to address specific needs of practice faculty members in addition to the program. Other departments have added specific programs based upon the needs within their disciplines and/or seminars that build upon the goals and objectives of the institution-wide faculty mentoring program.

The instructional design and delivery of faculty development/mentoring programs should be further explored. With the dramatic growth of MCPHS in recent years, it would be helpful to further expand components of the program to the Worcester and Manchester campuses. Although the program at MCPHS was initially designed primarily for live seminars with interactive discussions, we plan to explore opportunities to incorporate computer-assisted Internet instruction within faculty development and the mentoring program. Given the growth of the faculty mentoring program participants and the involvement of different campuses, this provides a way to reach out across campuses and to utilize alternative options of delivery that can be effective. Another possible use of technology would be to make live seminars available on all 3 campuses at the same time by videoconferencing. In the past couple of years, efforts have been made to offer all faculty development seminars that have been offered in Boston to the Worcester campus. In addition, all sessions are videotaped for access for all faculty members who are unable to attend the programs. It is important that we survey the faculty members on all campuses to determine preferred options of program delivery and to tailor programs to address their needs.

## CONCLUSION

In summary, the institution of a formalized faculty mentoring program proved to be a challenging yet highly rewarding endeavor. Keys to successful implementation included the formation of a group committed to faculty mentoring (mentorship subcommittee), the support and commitment of administration, the buy-in of senior faculty members and protégés, and the design of the program to support the mission of the academic units and institution. Overall, new faculty members were pleased with the mentoring experience and appeared to benefit

from the wisdom and guidance provided by dedicated senior faculty members, as well as from the pertinent faculty development programs that were offered throughout the year. The faculty mentoring program also brought together faculty members from different schools and campuses and fostered an exchange of ideas and a unified goal of mentoring. Colleges and universities should tailor faculty development and mentoring to the collective and individual needs of the institution and the academic units.

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