REVIEW ARTICLES

A Critical Appraisal of and Recommendations for Faculty Development

B. Joseph Guglielmo, PharmD,^a David J. Edwards, PharmD,^b Andrea S. Franks, PharmD,^c Cynthia A. Naughton, PharmD,^d Kristine S. Schonder, PharmD,^e Pamela L. Stamm, PharmD,^f Phillip Thornton, PhD,^g and Nicholas G. Popovich, PhD^h

^aSchool of Pharmacy, University of California San Francisco

^bEugene Applebaum College of Pharmacy and Health Sciences

^cCollege of Pharmacy, University of Tennessee

^dCollege of Pharmacy, Nursing, and Allied Sciences, North Dakota State University

^eSchool of Pharmacy, University of Pittsburgh

^fHarrison School of Pharmacy, Auburn University

^gSchool of Pharmacy, Wingate University

^hCollege of Pharmacy, University of Illinois at Chicago

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The 2009-2010 American Association of Colleges of Pharmacy (AACP) Council of Faculties Faculty Affairs Committee reviewed published literature assessing the scope and outcomes of faculty development for tenure and promotion. Relevant articles were identified via a PubMed search, review of pharmacy education journals, and identification of position papers from major healthcare professions academic organizations. While programs intended to enhance faculty development were described by some healthcare professions, relatively little specific to pharmacy has been published and none of the healthcare professions have adequately evaluated the impact of various faculty-development programs on associated outcomes.

The paucity of published information strongly suggests a lack of outcomes-oriented faculty-development programs in colleges and schools of pharmacy. Substantial steps are required toward the development and scholarly evaluation of faculty-development programs. As these programs are developed and assessed, evaluations must encompass all faculty subgroups, including tenure- and non-tenure track faculty members, volunteer faculty members, women, and underrepresented minorities. This paper proposes AACP, college and school, and department-level recommendations intended to ensure faculty success in achieving tenure and promotion.

Keywords: faculty development; colleges and schools of pharmacy; tenure; promotion; outcomes

INTRODUCTION

Faculty development is considered an essential component in the academic success of individual faculty members as well as that of the institution. Standard Number 26 of the 2007 Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree specifically advocates that colleges and schools of pharmacy have an effective continuing professional-development program for full-time, part-time, and voluntary faculty members, as well as staff members, consistent with their respective responsibilities. While this

requirement uses the term “continuing professional development,” the Standard refers to programs intended to ensure faculty development.

Highly effective faculty development programs for colleges and schools of pharmacy have not been created. Complicating progress in this area is the wide range of expectations for faculty members with respect to service, research, and teaching. The scope of faculty development in colleges and schools of pharmacy has not been critically reviewed in the peer-reviewed literature.

The Faculty Affairs Committee of the 2009-2010 AACP Council on Faculty was charged with collecting information and formulating recommendations for faculty development specific to the promotion and tenure process. The initial committee charge was to (1) create an inventory of all colleges and schools of pharmacy that had a “formal” faculty-development program; (2) create

Corresponding Author: B. Joseph Guglielmo, PharmD, Professor and Chair, Department of Clinical Pharmacy, School of Pharmacy, University of California San Francisco, San Francisco, CA 94143-0622. Tel: 415-476-2354. Fax: 415-476-6632. E-mail: guglielmoj@pharmacy.ucsf.edu

a mechanism to characterize and publicize the best practices for faculty development within research-intensive and non-research-intensive colleges and schools of pharmacy; and (3) document the success of these programs.

The committee first identified a sample of colleges and schools of pharmacy and assessed the scope of their faculty development programs by means of telephone interviews, which revealed a wide range of programs, independent of rank and series. In all instances, little to no evaluation of the programs' effectiveness had taken place. In light of this finding, the committee concluded that a critical review of the literature regarding faculty development was needed and that the review should include faculty-development programs in other healthcare professional schools, including dentistry, medicine, and nursing. Benchmarking programs in other healthcare professional schools were expected to provide valuable information applicable to the development of such programs in colleges and schools of pharmacy.

The specific goals of this review were to: (1) critically assess published programs for faculty development in colleges and schools of pharmacy and other healthcare professions; (2) characterize the most commonly used faculty-development programs and their associated outcomes; and (3) recommend next steps to improve faculty development in colleges and schools of pharmacy.

METHODS

All peer-reviewed literature assessing the scope and outcomes associated with faculty development in healthcare professions were evaluated. *Faculty development* was defined as programs and activities designed to improve faculty performance in all academic roles, including teaching, research, leadership, and clinical practice.^{1,2} The methodology for this review included a PubMed search, review of pharmacy education journals, including the *American Journal of Pharmaceutical Education (AJPE)* and the *International Journal of Pharmacy Education*, and identification of white papers and position papers from all major healthcare professional academic organizations. We conducted a systematic search of Medline, Cumulative Index to Nursing and Allied Health Literature, Education Resources Information Center, and LexisNexus Academic from inception through August 2010 to identify organization white papers. White papers, guidelines, and position statements regarding faculty development within medical and allied health education were retrieved. A manual search also was conducted at specific academic medicine and allied health associations, including Association of American Medical Colleges (AAMC), National Association of Nurse Practitioner Faculties (NONPF), National League of Nursing (NLN), American Association of Colleges of Nursing

(AACN), American Dental Education Association (ADEA), American Academy of Pediatrics (AAP), American Physical Therapy Association (APTA), and American Occupational Therapy Association (AOTA). The search included all relevant publications through September 2010.

RESULTS

Position Papers of Health Care Professions Academic Organizations

In its recent position statement entitled, "Clinical Faculty Development," the American College of Clinical Pharmacy acknowledged the unique requirements and needs of individual institutions³ and delineated the need for institutional commitment and identification of necessary components, such as a comprehensive orientation program, mentoring, a sustained faculty-development program, a teaching-abilities development program, and an assessment component to demonstrate program effectiveness. The AACCP supports faculty development through its various programs, including the Women Faculty Special Interest Group and the New Pharmacy Faculty Research Awards Program. As described later in the review, development of the clinical scientist has been addressed by both the AACCP and ACCP.

Professional organizations for medical education, nursing, dentistry, pediatrics, physical therapy, and occupational therapy were researched for position papers or statements regarding junior and mid-level faculty development within their respective disciplines. While there is considerable literature regarding the importance of medical faculty development and mentoring, the Association of American Medical Colleges has no position papers or statements addressing this issue. Despite the absence of official position statements, the importance of faculty development within this organization is evidenced by its creation of a Web-based quarterly publication on faculty development⁴ focusing on professional and leadership development. No published information on faculty development from physical therapy and occupational therapy associations was found.

The National League of Nursing published a position paper suggesting that mentoring is the primary means of career development for nursing education faculty members.⁵ This paper highlighted traditional mentoring relationships as well as peer and co-mentoring. While traditional mentoring relationships may have value, the organization cautions that a large cadre of senior faculty members would be needed to fill these roles and argues that these relationships generally involve an expert imparting wisdom to a junior person, with little to no reciprocal sharing of ideas or expertise. Peer and co-mentoring are encouraged with a goal of establishing 2-way sharing of

ideas to foster an improved atmosphere of support and empathy. While strongly encouraging mentoring, the National League of Nursing notes that faculty development programs should involve other components as well. Mid-career mentoring was identified as important to improving the rate of promotion to full professorial rank. A less-formal approach, wherein mid-career mentoring would be directed by the faculty member instead of the mentor, was suggested. Development of mentoring workshops is an important recommendation of the organization and has been an area of emphasis at its annual meetings.

The American Association of Colleges of Nursing has published a white paper regarding faculty shortages and commended faculty development as an important step toward faculty retention.⁶ In response to this white paper, faculty and leadership development materials and information about opportunities (<http://www.aacn.nche.edu/Faculty/>) were made available on the association's Web site. The National Organization of Nurse Practitioner Faculties also has published a white paper on faculty development suggesting that colleges and schools provide faculty development opportunities.⁷ However, no objective evidence was found that this organization has provided such opportunities within its own discipline.

The American Dental Education Association formed the Commission on Change and Innovation in Dental Education to address the need for faculty development, particularly in light of curricular change. The association also developed the Institute for Teaching and Learning to increase the success for promotion and tenure of new faculty members the American Dental Education Association Leadership Institute to improve leadership among mid-career faculty members; and the Academic Dental Careers Fellowship Program to increase entry of dental students into academia. A series of manuscripts also was commissioned by the Commission on Change and Innovation to address environmental concerns and faculty development. Recommendations included provision of clear expectations for faculty members, rewards for excellence in teaching, development of a mentoring program as the cornerstone of faculty development, and maintenance of an environment that supports and encourages enthusiasm within the faculty.⁸ While these are not truly position papers or statements, they were commissioned and supported by the association.

Faculty Development Programs

Most of the published programs intended to enhance professional development of college and school of pharmacy faculty members were not associated with clearly measurable outcomes. The University of Tennessee College of Pharmacy⁹ described an approach in which faculty members assessed and identified their specific development

needs in 3 programs: (1) Individual Faculty Development Grant, (2) the Seed Research Grant Program, and (3) Technology Support Program. Outcomes associated with these programs were not described and only the Individual Faculty Development Grant program was still in place.

The St. Louis College of Pharmacy implemented a Pharmacy Faculty Academy to foster professional growth of new faculty members in an "outcomes-oriented, frames" based manner.¹⁰ Key principles of the academy included reinforcing mission, vision, and core values; continuous quality improvement through periodic, timely assessments; modeling best practices; and fostering organizational commitment. Workshops, simulations, reflections, and organized social interactions were all integral components. According to the authors, the program resulted in more highly engaged and productive faculty members who were more likely to have a long-term professional relationship with the college. Objective measures of success included an increase in the average number of publications per faculty member per year; a greater number of invited national lectures, papers, and posters; and a higher percentage of pharmacy practice faculty members with board certification. The authors did not state which aspects of the program were most likely to be associated with the observed benefit.¹⁰

The Massachusetts College of Pharmacy¹¹ developed a sustainable formal faculty-mentoring program, including a mentorship committee, faculty mentoring guidelines, orientation, seminars/workshops, and protégé/mentor pairs with regularly scheduled meetings between each protégé and mentor. Self-perceived abilities of both protégés and mentors increased in most areas reviewed, but objective measurable improvement in faculty development was not assessed.

Attitudes and experiences of pharmacy educators toward faculty development programs have been evaluated.¹² While many faculty members reported participating in informal faculty development programs, few reported completing formal programs. Many respondents considered the mentoring received in their first academic position to be inadequate. Faculty members pursuing scholarship argued they had insufficient time to devote to research and "an inability to identify a research question and how to answer it."¹³

Faculty Development for Tenure-Track Faculty. Many initiatives have been used in both academic medicine and pharmacy to enhance faculty performance for tenure-track research-based faculty members. Mentoring programs, research-development coursework, and start-up funding are commonly used approaches. Some universities offer professional development funds that can be used to attend conferences, pay membership dues, and cover other professional expenses. Provision of protected time for research and financial incentives, eg, the National

Institutes of Health (NIH) Loan Repayment Program (<http://www.lrp.nih.gov>), are commonly used to improve the research productivity of tenure-track junior faculty members. Similarly, new faculty members also can request protected time for the conceptualization, creation, and preparation of new courses or course materials. Short- and long-term sabbaticals allow learning of new techniques in research and teaching as well as exposure to other national and international schools. Relatively few of these approaches to increasing research output and, thus, faculty development have been systematically evaluated to determine whether they are successful.

Faculty Development for the Clinical Scientist.

Two AACP task forces have defined the optimal training/skill development program for clinical scientists.^{14,15} The first task force recommended that doctor of pharmacy students possess a strong foundation in basic sciences and be introduced to basic research principles.¹⁴ This task force also suggested that clinical scientist training include either a doctorate degree in health professions followed by a doctor of philosophy or a dual clinical doctorate/doctor of philosophy program. The report emphasized the importance of continued clinical skill development in the patient-care setting. One of the suggestions emerging from this task force was that academic pharmacy be involved in the establishment of primary care practice-based research networks in community pharmacies to increase collaboration with health providers in the community.

While the first task force was focused primarily on training clinical scientists to conduct bench-to-bedside research (T1), the other explored academic pharmacy and research as a means of preparing the next generation of pharmacist scientists to conduct bedside-to-patient care research (T2).¹⁵ The task force recommended strong interdisciplinary research teams to enhance research competitiveness. It also encouraged junior clinical faculty members to enter research-training programs (NIH K awards and similar programs) early in their academic careers, and all pharmacy-practice faculty members to be involved in T2 research as either co-investigators or as part of a practice-based research network.¹⁵ Another suggestion was that AACP and colleges and schools of pharmacy promote faculty development pathways to enable/empower faculty members to participate in practice-based translational research, including practice-based research networks.

The ACCP Research Affairs Committee authored a white paper on the State of Science and Research in Clinical Pharmacy.¹⁶ This manuscript compared different funding streams and training options, competencies to be achieved, and gaps between the current and project status of clinical scientists in the profession of pharmacy. Because lack of mentorship was identified as a key barrier

for junior investigators; enhanced mentoring programs and multidisciplinary collaboration with successful research programs were recommended as strategies for developing successful pharmacy researchers.

The ACCP charged the Research Affairs Committee to recommend optimal pathway(s) for preparing doctor of pharmacy graduates to become competitive clinical and translational scientists.¹⁷ Similar to suggestions by other organizations, the committee recommended research-focused postgraduate education, including clinical training (ie, degree-granting fellowships or doctor of philosophy plus residency training), and the NIH as funding sources for junior investigators. This article did not address faculty development for clinical science faculty members.

An NIH-sponsored special conference entitled "PharmD Pathways to Biomedical Research"¹⁸ highlighted the importance of exposure to clinical and research training in the doctor of pharmacy and postdoctoral curricula and recommended that doctor of pharmacy graduates complete either a doctor of philosophy degree or a postdoctoral fellowship to prepare for a research career. It also described mechanisms to increase funding opportunities (eg, Clinical and Translational Science Awards, NIH K awards) for research-focused faculty members in the early stage of their careers. Research training was recommended for all pharmacy students, and postdoctoral training, including a doctor of philosophy degree and/or a research-intensive fellowship, was suggested for those interested in research careers. Recommended approaches for developing skills in pharmacist-scientists included mentoring of junior investigators and collaboration between practice- and research-based faculty members. The report did not describe career development programs or expected outcomes.¹⁸

Recommendations of the Association of American Medical Colleges Task Force on Clinical Research were similar to those of AACP task forces and included research education in medical school and residency training, followed by attainment of an advanced degree, mentorship, and postdoctoral training.¹⁹ The task force also recommended that new junior faculty members receive start-up funds, protected time for research, appropriate resources and infrastructure, and individually focused mentoring. Similar to the AACP's recommendations, the task force supported collaboration with community-based providers, including the development of practice-based research networks.

A career development program for physician clinical scientist faculty at the University of Toronto includes research faculty, such as clinician-investigators and clinician-scientists, as well as faculty members focused on clinical practice and teaching.²⁰ Program participants demonstrated increased academic rank and improvement in all areas of achievement including research.

A description of the career-development needs of pulmonary and critical care medicine fellows centered on the need for financial support for junior investigators.²¹ A survey of junior faculty members and physician fellows in pulmonary/critical care medicine and critical care medicine in the United States and Canada demonstrated a desire for formal assistance in career development, mentoring, and a more formal curriculum.²²

A description of best practices and innovations in colleges of dentistry highlighted the need to create attainable promotion goals, suggested embracing a broader definition of scholarship, and recommended opportunities for multiple parallel-track career pathways.²³ It also recommended creation of appropriate resources as well as mentoring and development of mission statements reflecting dentistry as a scientific and academic profession. It did not describe a specific career development program or focus specifically upon clinical scientists.

Faculty Development for Non-Research (Teaching/Patient Care-Centered) Faculty. While there are no college or school of pharmacy publications related to this topic, literature from medicine and nursing outlines the challenges for clinical faculty members. Unlike the relatively well-known promotion requirements for tenure-track faculty members, little has been published on faculty members focused on teaching and patient care rather than research. This paper elaborates on this important faculty group. Requirements for academic promotion in academia often focus on scholarly activity. However, scholarship is a particular challenge for clinical faculty members with substantial practice and/or teaching commitments, which limit the time that can be allocated for scholarly activity. One medical school study concluded that the odds of holding a higher academic rank were 85% lower for clinical faculty members and 69% lower for teaching faculty compared with research faculty members.²⁴ One study documented that clinical educator faculty members are promoted at a slower rate than are their research faculty counterparts (42% versus 62%, respectively, at 6 years).²⁵

Clinical educators must stay current with knowledge in their respective disciplines, further decreasing the available time needed for scholarly work.²⁶ These faculty members additionally devote substantial time to university and public service. While the quality and quantity of these activities might be high, they may not carry as much weight in promotion decisions as, for example, peer-reviewed publications.²⁶ The nursing literature provides guidelines for these faculty members incorporating quality (ie, expertise as a clinician), governance (ie, ownership of practice), leadership (ie, mentoring and development of standards of practice), and knowledge development (research).²⁷

Some academic medical centers have proposed separate promotion criteria for clinical and research faculty members. Fleming and colleagues suggested incorporating the documentation of teaching, mentoring and supervision, educational administration and service, and scholarship of teaching into the promotion requirements for clinical educators.²⁸ The University of California uses a 5-track system that differentiates medical research faculty members from clinical faculty members.²⁹ The tracks vary with respect to salary sources, tenure eligibility, expectations for clinical service, and membership in the faculty senate. As the faculty member progresses toward promotion, regular merit reviews are conducted for each track. The “salaried clinical” track requires faculty members to participate in teaching and clinical research but does not include a publication requirement. While not explicitly detailed, improved success in the promotion of clinical faculty members was observed using this system.

Faculty development aimed at clinical educators is described in the medical literature.³⁰ Clinical educators must advance their expertise as an educator first, a step that is often overlooked in development programs for clinicians. While formal education or institutional-based faculty-development courses are commonly used mechanisms, peer-review of teaching, publications, and presentations also promote educational skills in clinical faculty members. Mentoring is a key component of faculty development, particularly when the mentor is selected by the individual faculty member rather than being “assigned” by the department chair.³¹

The Alliance for Academic Internal Medicine recently published a report on development and training for clinical educators.³² The group found that 48% of North American medical schools had medical educational fellowship programs in 2008.³³ Programs were considered successful as evidenced by increased numbers of peer-reviewed publications and greater motivation and enthusiasm for teaching.³³ The report described a hierarchy of clinical educators, based on the specialization of training in teaching, ranging from clinician-educator to master teacher. The roles of these educators included direct teaching and supervising, role modeling, evaluating, mentoring and advising, and educational leadership and administration.³² To accomplish adequate training of the clinician educator and master teacher, the authors recommended that faculty development be aimed at developing skills in each of the following areas: teaching, networking, mentoring, educational leadership and administration, adult learning theory, curriculum design and evaluation, educational research and scholarship, and career advancement.³³ The report stressed the importance of a mentoring program extending beyond research to ensure adequate training of clinician-educators and the success of these programs.

Faculty Development for Women Faculty. Across 1,445 US institutions, including doctoral universities, master's institutions, baccalaureate colleges, and 2-year colleges, women hold only 31% of tenured positions and 24% of full professorships.³⁴ In medicine, women comprise 19% of tenured faculty members, 17% of full professors, and 12% of medical school department chairs.³⁵ According to the AACP's 2008-2009 profile of pharmacy faculty members, women represent 44% of full-time faculty members, primarily at the assistant-professor rank (54%). Although tenure status was included in the report, it was not broken down by gender.

The current search failed to yield results specific to the advancement of women among pharmacy faculty members. The nursing literature included articles pertaining to female faculty members; however, they were descriptive in nature. Most information pertaining to faculty advancement of women originates from medicine and centers more on leadership rather than faculty development.

Formal leadership programs designed for women include those from the Association of American Medical Colleges and the Institute for Women's Health and Leadership at Drexel University College of Medicine.^{36,37} To address the shortage of women leaders, the association offers professional development seminars for junior and senior women faculty members.³⁶ These seminars stimulate growth in support and information networks for women and assist in the development of skills, such as negotiating for resources, managing finances, self-promotion, building informal networks, writing for professional journals, procuring grants, building research programs, conflict and time management, and balancing career and family, among others. Longitudinal studies of the effectiveness of these seminars, however, are lacking.

The Executive Leadership in Academic Medicine is a core program of the Institute for Women's Health and Leadership at Drexel University College of Medicine. It provides executive leadership skill development for women faculty members at the associate or full professor rank at schools of medicine, dentistry, and public health (www.drexelmed.edu/ELAM). Participants meet for three 1-week residential sessions and complete individual and group assignments throughout the program year. Leadership accomplishments (attainment of administrative leadership positions and the rank of full professor) of women who participated in the program were compared with those of women who did not participate.³⁸ Nearly two-thirds (63.5%) of participants in the leadership program reported holding an administrative title of chair or greater compared with only 24.6% of nonparticipants. Although program fellows reported an increase in attaining the rank of full professor from 26 (44.8%) to 37

(69.8%), it was not significantly different from the rate for nonparticipants.³⁸

The effect of participating in the Executive Leadership in Academic Medicine program was assessed in a survey of US and Canadian medical school deans regarding their perceptions of organizational climate and the impact of the program on women advancing into leadership roles.³⁹ A 7-point Likert scale (ie, 1 = strongly disagree, 7 = strongly agree) was used to record the dean's perceptions of the ability of program fellows to be promoted. Individual means exceeded 5.5/7.0 for perceived advancement for informal (eg, chair of leadership committee or task force) and formal (eg, position in the dean's office or department chair) leadership positions.³⁹

Fried and colleagues evaluated multiple interventions to overcome career obstacles for women.⁴⁰ The article identified gender-related career obstacles, interventions implemented to correct obstacles, and the results of the first 5 years of the interventions. Primary outcome measures included promotion rates, career experiences, and identification of gender-related career obstacles for women. Interventions targeted leadership, gender discrimination education, isolation, faculty-member development and mentoring, academic rewards, institutional obstacles, and evaluation. Faculty members reported positive changes in many of the areas targeted for intervention. The proportion of women at the associate professor rank increased from 9% to 41% after 5 years. Although multiple interventions were used, the significant increase in female faculty member promotions was attributed primarily to promotion-committee monitoring of career progress, improved mentoring, and institution of a career development program.

Mentoring is frequently cited as a model to facilitate the advancement of women. A small pilot program used a "facilitated mentoring model" to address the unique needs of women.⁴¹ This model involved senior women faculty members serving as mentors to a group of younger women who, in turn, acted as peer mentors to each other. The pilot program was divided into 3 phases: skills acquisition and enhancement, skills application, and group research project development. The applicable outcome measures included published papers and promotions. Three of the 4 mentees coauthored 3 peer-reviewed manuscripts, and each achieved promotion in academic rank from instructor to assistant professor.

Faculty Development of Underrepresented Minorities. The Health Resources and Services Administration defines underrepresented minorities as African and Hispanic Americans, Native Americans, Alaskans, Pacific Islanders (Hawaiians and others), and certain Asians (Hmong, Vietnamese, and Cambodians). Although other faculty development programs have been described in the

pharmacy literature, none has focused specifically on the development of URM. However, the academic medicine literature has examples of such programs.

Butts and colleagues reported on a consortium of 4 medical schools that formed centers of excellence for recruitment and development of minority faculty members.⁴² Albert Einstein School of Medicine created four 1- to 2-year fellowship opportunities for underrepresented minorities. The focus varied from a developmental disabilities fellowship to successful recruitment and training of underrepresented minority faculty members. Notably, a master's degree in clinical research originated from this effort. The University of Pennsylvania School of Medicine developed a center for excellence on minority health for mentoring of underrepresented minority faculty members.⁴³ The development program focused on the following: (1) career development meetings in which senior faculty members provided advice regarding resources, mentors and mentoring, publishing, teaching activities, and committee memberships; (2) assistance in identifying mentors to provide general assistance regarding external funding requests and manuscript preparation; and (3) assistance in developing research, scientific writing, and medical presentation skills. Although program outcomes were not reported, the authors theorized that it would be beneficial to have a senior underrepresented minority faculty program director and that senior administration should fully support the program. The authors considered it essential to have both clinical as well as tenure-track programs to address the needs of both tenure-track and nontenure-track series for various minority groups. Funding was identified as a significant barrier, and the authors concluded the mentoring process was difficult to fully formalize.

The University of California, San Diego School of Medicine collaborated with the Hispanic Center of Excellence to establish the National Center for Leadership in Academic Medicine housed under the Office of Academic Affairs of the Vice Chancellor for Health Sciences.⁴⁴ The center designed a formal faculty-development program geared to increasing faculty retention and success. The program was open for campus-wide enrollment to underrepresented minority and non-underrepresented minority faculty. Faculty members were required to attend the following: (1) 12 half-day workshops focused on goal setting, preparation of a faculty portfolio, principles of teaching and learning, leadership styles, negotiation skills, stress management, internal academic resources, internal grant resources, grant writing, conflict resolution, curriculum development, performance evaluation, and presentation skills; (2) a structured 7-month one-to-one mentoring program averaging 12 contact hours per month; (3) a 2-hour academic performance counseling session; and (4) a pro-

fessional development project. While some pharmacy faculty members participated in this project, it was not possible to identify the impact of the program on underrepresented minority faculty. The percentage of underrepresented minority faculty members remaining in academic medicine increased from 75% to 90%; however, this increase was similar to that observed among center participants who were not underrepresented minorities.

Atlanta's Morehouse University implemented a formalized faculty development program.^{45,46} The core structure included a weekly longitudinal program, which was further divided annually into one to two 6-week modules. During the tenth year, an Executive Faculty Development Program was developed and several 4-day intensive sessions provided. The program was staffed by 5 faculty members and 2 support personnel. The courses emphasized 6 areas: teaching, audiovisual skills, research/writing, cultural competency, computer skills, and administrative skills. Over a 10-year period, 120 faculty members enrolled and 113 completed the year-long program. An additional 128 individuals attended 1-day workshops or completed at least 1 module. A postparticipation survey found that 81% of program graduates were full-time or part-time teachers. Faculty members reported a perceived enhanced competence after participation. Major perceived program strengths included small group size, individualized instruction, interactive format, and integration of theory into practice. Suggestions for improvement included: increased opportunities to work on individual projects during the sessions, more discussion of crosscultural issues, increased prerequisite reading, specified blocks of time to focus on writing skills, and provision of handouts. Despite the success of this program, the authors concluded that formal mentoring programs and dedicated research time were still needed and thus recommended advanced programs to develop the skills of senior faculty members.

Faculty Development of Volunteer/Adjunct Faculty. Despite substantial reliance on volunteer/adjunct faculty in colleges and schools of pharmacy, little has been published regarding faculty development in this important group. Our search revealed no publications addressing the advancement of volunteer or adjunct faculty members. Most published manuscripts have investigated incentives and rewards for recruitment and retention of volunteer faculty members, while others have focused on the challenges of mentoring adjunct faculty members. The majority of the articles were from medical schools, a few from nursing schools, and none from colleges or schools of pharmacy. Considering the total lack of publications regarding faculty development of volunteer/adjunct faculty members, we have expanded the current review to assess incentives and rewards for these individuals.

Kumar and colleagues examined incentives and rewards offered to nonsalaried clinical faculty teaching medical students in the United States and Canada.⁴⁷ Over 90% of these faculty members were offered academic appointments. Common incentives included educational opportunities, special recognition events, and appreciation letters, among others. The same investigators subsequently surveyed US volunteer faculty members to determine which incentives were most highly valued by the faculty members.⁴⁸ Educational opportunities and reimbursement for travel and meeting registration were most commonly cited. Personal satisfaction was the most commonly cited reason for those deciding to participate in volunteer teaching. Kalis and Kirshenbaum⁴⁹ examined faculty awards at US colleges and schools of pharmacy and reported that 79% provided a teaching-excellence award for adjunct faculty members or preceptors. In their review of the use of adjunct faculty in gerontology programs, Parrott and colleagues⁵⁰ noted concern among adjunct faculty members regarding the lack of opportunity for professional advancement.

Mentorship programs for volunteer faculty members have been described for medicine and nursing.^{51,52} Although similar programs are likely available in pharmacy colleges and schools, no publications describing such programs were found.

DISCUSSION

While the peer-reviewed literature offers descriptions of programs intended to enhance faculty development in healthcare professions, relatively little specific to pharmacy has been published. Furthermore, none of the healthcare professions have adequately evaluated the impact of various faculty development programs with associated outcomes, such as promotion and tenure. Although ACPE, AACP, and ACCP offer various white papers and general descriptors of appropriate faculty development programs, there has been no evaluation of the impact of these papers on specific faculty subgroups, including research-based basic science and clinical science faculty members, clinician-teachers, and volunteer faculty members, and additional subgroups, including women and underrepresented minorities. The lack of published information regarding faculty development strongly suggests a lack of evidence-based programs with associated outcomes in colleges and schools of pharmacy. Substantial steps are now required toward the development and scholarly evaluation of faculty development programs in colleges and schools of pharmacy. As these programs are developed and assessed, evaluations must encompass all faculty subgroups, including tenure and nontenure track, volunteer, women, and underrepresented minorities.

Carroll suggests that most faculty members are inherently self-driven learners and thus may be more motivated

to participate in programs if the information therein is recognized as “need to know.”⁵³ He argues that the “need to know” factor might be stimulated by student, peer, or administrator evaluation, self-reflection, or observation of others. As adult learners, faculty members should be more motivated to participate when they have the opportunity to direct program content. He suggests that the program design should emphasize adult learning theory that allows attendees to immediately apply the concepts or skills and that workshops and small-group activities are an appropriate format for this program design. Finally, he argues that programs should incorporate various assessment methods.

Our findings suggest that there is minimal assessment associated with faculty-development programs, not only at colleges and schools of pharmacy but at all healthcare professional schools. All faculty development programs should include an evaluation centered on the desired outcomes.² The first step should be identification of the knowledge, skills, and attitudes that program participants should attain. Subsequently, specific measurable outcomes should be developed, and tools to measure those outcomes should be identified or developed.²

While self-reported outcomes data, such as participant satisfaction or confidence, are easily obtained, it is more challenging to measure higher-level outcomes of a successful faculty development program.² Validated, reliable evaluation tools should be used in the assessment of faculty development. Kirkpatrick’s model identifies 4 levels to evaluate the effectiveness of an intervention^{1,2}: (1) reaction of participants (satisfaction), (2) learning (knowledge, skills, attitudes), (3) behavioral changes, and (4) results (impact on student, resident, and fellow learners as well as patients and the organization). The optimal evaluation of any faculty development program should assess each of the 4 levels through both quantitative and qualitative measures. Specific approaches include a postprogram evaluation, pre- and post-evaluation, and/or a delayed post-evaluation.¹

An important and seldom-observed step is assessing and reporting the reliability and validity of instruments used to evaluate the faculty-development program.² Academic pharmacy organizations, specifically the AACP, should develop standardized, valid, and reliable instruments to allow for benchmarking and should provide to those charged with faculty development the tools necessary for assessing their programs. Academic pharmacy should look beyond the healthcare professions for successful approaches to faculty development. Many of the programs and methodologies used in the business world to develop productive members of the workforce have potential application to healthcare fields.

We propose applying the concept of shared responsibility to a faculty development plan. Such a plan would mandate a commitment between the administration and faculty members of a college or school of pharmacy to design, implement, monitor, and assess a faculty development plan that would affect specific outcomes for individual faculty members. This model should involve all major transition periods during an academic career, including the initial appointment, promotion to associate and full professor (with or without tenure), the addition of substantial administrative duties, and retirement.

In such a model, in collaboration with college/school administration, the faculty member would identify areas for development through a cafeteria of items, such as teaching (eg, large lecture, small-group discussion) and research (eg, grant writing, manuscript creation). Subsequently, administration would identify and engage one or more individuals from its campus, the university as a whole, and/or within academic pharmacy, to mentor and guide the faculty member. The faculty member and the administration would work on a "matching" process based on the availability of mentors for the faculty member's specific needs. Depending on the transition point (eg, appointment or promotion), the areas of development and mentor team should be adaptable. The performance of the faculty member and the administration in faculty development would be reviewed annually and, if continued, new goals for the upcoming academic year would be established based on the current annual review. The department/division chair/head, associate dean for academic affairs, and other administrators would have significant responsibilities in this arrangement. Incoming faculty members would be responsible for orienting and directing new faculty members toward available resources to facilitate their ability to meet their academic responsibilities. All faculty members would participate in an orientation individualized according to member status (eg, tenure vs. nontenure track). Campus programs specific to faculty subgroups, including women and underrepresented minorities, would be an integral component of this orientation. Similarly, administrators would be responsible for coordinating a similar process at other important transition points. Schools would need to assess the success of their programs and the performance of individual faculty members through specific outcomes, including but not limited to the number of faculty members achieving promotion and/or tenure.

At the national level, AACP would have substantial responsibilities. For instance, AACP could endorse the concept of a faculty development program and work with ACPE, ACCP, and other pharmacy professional organizations to finalize the definition and concept. AACP

could develop a "best practice model" that could be used as a template toward the creation of the optimal faculty development program. Considering the current lack of scholarship associated with faculty development, AACP could develop longitudinal assessment instruments which measure overall satisfaction with existing faculty development programs from an individual and department head perspective. AACP should assume key leadership in the design of multiple outcome-based studies that would identify faculty development programs most likely to ensure success in tenure and promotion.

A final recommendation is the implementation of a "faculty development" section in the *Journal* that would highlight research accomplished by individual faculty members and colleges and schools, as well as AACP initiatives. Although implementing a faculty-development section in the *Journal* would require some planning, it would eventually encourage much-needed scholarship in this important domain.

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