The AACP Bylaws direct the Research and Graduate Affairs Committee (RGAC) to assist with the development of the Association's research, graduate affairs, and scholarship agenda. Instead of providing a specific agenda for the Committee this year, AACP President Leslie Z. Benet requested that the Committee review pertinent documents regarding impending changes in pharmaceutical education and health care, and consider the impact of these changes on the future of academic pharmacy and AACP. The Committee was charged with identifying strategies and tactics to assist the Association in achieving its mission and developing future RGAC agenda items consistent with the new vision of professional practice and pharmaceutical education.

GRADUATE AFFAIRS

Background
An important responsibility of this Committee, according to the AACP Bylaws, is to assist with the development of the Association's research, graduate affairs, and scholarship agenda. Traditionally, graduate affairs has referred to graduate programs that award MS, PhD, or equivalent degrees. However, postdoctoral (PharmD, PhD, etc.) fellowship programs clearly are an inseparable part of the research and graduate education mission.

POLICY STATEMENT 1: AACP defines graduate affairs as issues pertaining to all graduate level degree-granting programs (MS, PhD, or equivalent degrees), as well as to postdoctoral (PharmD, PhD, etc.) fellowship programs.

(Policy Statement to the Research and Graduate Affairs Committee recommended acceptance of this Policy Statement; the House of Delegates voted to accept this Policy Statement.)

SCHOLARSHIP

Background
The RGAC endorses the principles contained in the Commission to Implement Change in Pharmaceutical Education Paper IV(1) and the Commission's recommendation that all pharmacy school faculty should be engaged in meaningful scholarly activities. However, it is the unanimous opinion of the Committee that research must remain the sine qua non of scholarship among full-time faculty, and that it would be detrimental to pharmaceutical education and the profession “... if the scholarship of integration, scholarship of application, and scholarship of teaching were to become the principal forms of scholarship among the majority of full-time faculty.” The RGAC recognizes that not all colleges and schools of pharmacy are academic units in universities with an intensive research mission and, as such, may place less emphasis on research. The RGAC also acknowledges that scholarship as defined by Boyer(2) and embraced by Commission Paper IV(1) clearly includes research (i.e., scholarship of discovery). However, the RGAC is concerned that Commission Paper IV(1) deemphasizes research and suggests that within pharmacy academe, one can fulfill readily the scholarly expectations of full-time faculty members without engaging in research. If this were to become the norm, it would not be in the best interest of pharmaceutical education or the profession.

POLICY STATEMENT 2: AACP affirms the importance of research (i.e., “scholarship of discovery”) as a vital component of scholarship that is expected of every full-time faculty member to the extent that is consistent with the mission of his/her college or school of pharmacy.

(The Bylaws and Policy Development Committee remanded this Policy Statement to the Research and Graduate Affairs Committee. In the Committee's opinion, the Policy Statement: (i) does not follow the background material in the report, and (ii) contradicts policy passed by the 1993 House of Delegates. The Committee recommends that the 1994/95 Research and Graduate Affairs Committee review both the background material and appropriate existing Association policy in responding to this action.)

STRATEGIC PLANNING

Background
The development of a strategic plan for the Office of Graduate Education, Research and Scholarship, and the Director's position, is essential to provide a consistent focus and direction to this important mission of AACP. Development of this strategic plan must be one of the Association's highest priorities in the coming year. Only through the development of such a plan, complete with long-range and short-range goals, strategic objectives, and expected outcomes, can the Director of Graduate Education, Research and Scholarship, and future Research and Graduate Affairs Committees, most effectively conceive, develop, and implement the research and scholarship-related agenda of the Association.

The Committee identified three priority issues that should be key components of the above-mentioned strategic plan and the focus of future Research and Graduate Affairs Committees, as well as the Director of Graduate Education, Research and Scholarship:

• clinical research scientist development programs;
• recruitment into graduate and postdoctoral fellowship programs; and
• enhancement of research opportunities in the pharmaceutical sciences.

CLINICAL RESEARCH

Background
Clinical research scientist development programs are needed to prepare future faculty, as well as to develop the research skills of current clinical faculty. As the pharmacy profession continues to evolve toward a more clinical role in the provision of pharmaceutical care, the need for graduate and postdoctoral education/training programs that integrate science and clinical application has become increasingly evident. The development of clinical research scientists is essential for the scientific advancement of the profession.

Committee members: Kim L.R. Brouwer, (North Carolina), William E. Evans (Tennessee), Victoria F. Roche (Creighton), Marilyn K. Speedie (Maryland), Andy S. Stergachis (Washington) and Clarence T. Ueda (Nebraska); Liaison Members: Robert I. Tabor (DuPont-Merck Pharmaceuticals), Christine A. Carrico (AAPS).
profession; these individuals are needed to spearhead cutting-edge research efforts and participate as faculty in colleges and schools of pharmacy. As described in a recent ACCP White Paper(3), opportunities for clinical pharmaceutical scientists have emerged: "... in academia, industry, and government to minimize the gap in clinical research between the development of drug therapies and issues of safety, efficacy, and efficiency. In addition, the clinical pharmaceutical scientist represents a tremendous opportunity for pharmacy to enhance its contribution of new knowledge to the biomedical community."

Clinically-oriented research programs began to develop soon after the Millis Commission Report(4) advocated the need for clinical scientists. Initially, these programs were linked to post-PharmD residency and/or fellowship programs. Some clinical pharmacists developed research skills through on-the-job-type training. Formal programs have been slow to develop. Consequently, many colleges and schools of pharmacy are unable to attract adequate numbers of clinical pharmacists with research intensive training to the ranks of pharmacy practice faculty. This shortage is expected to become more acute as colleges and schools of pharmacy shift to the entry-level PharmD degree program.

Issues related to the development of clinical research scientists that need to be considered by future Committees in concert with the Director of Graduate Education, Research and Scholarship include:

**Program Development**

AACP should play a leading role in fostering the development of quality clinical research scientist development programs and should serve as an information resource to member colleges and schools of pharmacy seeking to develop such programs. This will require a knowledge base regarding the current and future market for such highly trained individuals, as well as the number and size of existing programs. A variety of programmatic approaches have been developed to train clinical research scientists, including postdoctoral fellowship programs, combined fellowship/PhD programs, clinical scientist PhD programs, and joint degree-granting programs (PharmD/PhD and PharmD/MPH).

**RECOMMENDATION 1:** Methods of training clinical research scientists should be a major topic of programming at an AACP annual meeting in the immediate future. Information regarding the various types of programs (program content, resources and facilities required, number of applicants, number of students enrolled, demand for and employment of graduates) should be presented so that member colleges and schools can assess the feasibility of developing such programs.

**Training Grants**

AACP should spearhead efforts to obtain funding for programs seeking to educate/train clinical research scientists. The Director of Graduate Education, Research and Scholarship should take a proactive role in encouraging professional pharmacy organizations currently supporting research and/or fellowship programs to combine efforts in support of training grants. In addition, training grant support should be sought from the American Foundation for Pharmaceutical Education (AFPE) and the National Institutes of Health (NIH).

**RECOMMENDATION 2:** AACP should assist in identifying resources to fund training grants for clinical research scientist development programs.

**Development of Research Skills Among Clinical Faculty**

There is a need to improve the capability of PharmD-trained clinical faculty to perform research. Many of these faculty have minimal research training compared to their counterparts in the basic sciences at the time they assume faculty positions, and yet they are expected to develop viable research programs. Aspiring clinical faculty will need to prepare themselves adequately to be competitive in the research arena through research-intensive training programs, as discussed above. Existing clinical faculty may desire additional research training, and AACP should encourage member colleges and schools to make a significant investment in these faculty by providing funding for research-intensive sabbatical leaves, relieving and/or reducing teaching/service responsibilities to facilitate development of research skills, and funding initial research efforts. The RGAC, as well as the Director of Graduate Education. Research and Scholarship, should consider mechanisms to promote clinical faculty research development (e.g., through the design and promotion of sabbatical opportunities and short-course training) and develop strategies to assist clinically-trained faculty members improve their research and grant writing skills. Mentoring by senior practitioner-scientist faculty also is important in the development of clinical research scientists.

**RECOMMENDATION 3:** AACP should develop strategies to assist clinically-trained faculty members improve their research and grant writing skills, and define ways that AACP can assist in identifying funding opportunities for clinical faculty research.

**RECOMMENDATION 4:** Methods of promoting clinical faculty research development should be a major topic of programming at an AACP annual meeting in the immediate future. Information regarding the various approaches taken in the development of existing programs (in-house versus extramural programs, program content, resources, facilities required, number of faculty involved, mechanisms for relieving faculty of teaching and/or service responsibilities, etc.) should be provided to stimulate new program development.

**GRADUATE STUDENT RECRUITMENT**

**Background**

Recruitment of outstanding students into graduate and postdoctoral fellowship programs is vital to the future of our discipline. Initiatives to encourage pharmacy's brightest and most creative students to pursue advanced study in basic pharmaceutical or clinical sciences and, subsequently, a career in pharmacy academia, must become an ongoing high priority agenda item for future Research and Graduate Affairs Committees, as well as the Director of Graduate Education. Research and Scholarship. RGAC reports over the past five years contain numerous recommendations dealing with the subject of graduate student recruitment, yet the problems persist. The fact that anticipated outcomes have not been realized to their fullest extent can be attributed, in part, to the lack of a sound action plan to facilitate implementation of these recommendations. A section of this plan should address recruitment of qualified pharmacy students into graduate and postdoctoral fellowship programs.

Recruitment of outstanding pharmacy students into graduate and fellowship programs is vital to the future of pharmacy academia. This is not a new issue or concern, but it rapidly is becoming a serious problem for many colleges and schools of pharmacy. This is especially true for the basic pharmaceutical sciences. The proportion of pharmacy graduates from A CPE-accredited colleges and schools of pharmacy entering graduate education and training programs has diminished consistently over the past several years. If this trend continues, there will be a severe shortage of pharmacy-trained faculty to serve as role models for professional students(5). To prevent this imminent academic manpower crisis, major (perhaps drastic) efforts should be undertaken immediately. Clearly, past methods and conventional approaches to the recruitment of pharmacy students into graduate and fellowship programs have been marginally effective at best. Regardless of whether these traditional approaches are inherently inefficient or have not been developed or pursued to their fullest extent, innovative and creative alternatives are needed; and pharmacy academia must be prepared to invest significant time, resources, and energy in the identification and implementation of such alternatives. These novel approaches might include one-on-one mentoring programs that begin with students who are seniors in high school; joint or combined degree programs with local feeder universities and colleges; payment of stipends to promising professional students...
who, while enrolled in pharmacy schools, are willing to commit to enrolling in a graduate or fellowship program after graduation; and designation and support of specific colleges or schools of pharmacy as Centers of Excellence for graduate education and fellowship programs in specific disciplines. Students should be introduced to pharmacy research and graduate studies through programs, activities, and special projects sponsored by individual colleges and schools of pharmacy as well as AACP.

Some traditional recruitment methods that warrant further exploration in an effort to enhance their effectiveness include promoting curricular flexibility to allow interested professional students to track into PhD programs in a timely manner, establishing quality clinical research scientist development programs, and facilitating communication among institutions on successful (and unsuccessful) recruitment strategies and efforts.

RECOMMENDATION 5: Recruitment of qualified pharmacy students into graduate and research-intensive, advanced training programs should be a major topic of programming at an AACP annual meeting in the immediate future.

RECOMMENDATION 6: Recruitment of qualified pharmacy students into graduate and research-intensive, advanced training programs should be a continuing priority area for funding through the Grant Awards to Pharmacy Schools (GAPS) program in the immediate future. A significant percentage of the GAPS funds in a given cycle should be earmarked for innovative proposals that address this issue.

RESEARCH DEVELOPMENT

Background

Research opportunities in the pharmaceutical sciences need to be enhanced through increased public awareness, expanded support, general program enhancement, and faculty development. One of the top priority items identified by the survey of pharmacy faculty conducted by the 1992-93 RGAC was increasing opportunities for faculty research support through industry and government, with particular emphasis on exploring new mechanisms of funding sources, promoting the role that pharmacy school faculty play in drug research and development, and establishing a database of funding sources. These goals are very closely related to two high priority items general research program enhancement/assistance and faculty development (develop strategies to reward, recognize, retain, and stimulate faculty). Key issues that need to be addressed include:

Advocacy and Liaison with Government, Private Foundations, and Industry Concerning Research Opportunities

The Director of Graduate Education, Research and Scholarship should take a proactive role in ensuring that the faculty in our schools are having an impact upon decision makers with regard to funding of federal research opportunities. For instance, when legislation is pending, e.g., for NIH budgets, the Director should mobilize a letter-writing and telephone campaign among faculty who may wish to contact relevant legislators. A network of contacts will ensure that we have a rapid impact when needed. For example, the Director might examine the way the American Public Health Association issues Action Alerts to its members who reside in key legislator's districts to encourage advocacy for federal legislation.

The Director should play a similar advocacy role with private sources of funding, including the Pharmaceutical Manufacturers Association Foundation and foundations associated with specific pharmaceutical companies, both in encouraging definitions of research priorities to include pharmaceutical sciences and in stimulating applications from AACP members.

In addition, the Director should serve an advocacy and liaison role with the pharmaceutical industry. Activities might include the identification of general and specific opportunities for industry/academia collaboration. AACP also could provide consultation and direction to faculty on such issues as dealing with conflict of interest and structuring contracts to protect academic interests. In all cases, the RGAC should guide the Director in the above-mentioned efforts.

RECOMMENDATION 7: The Director of Graduate Education, Research and Scholarship, guided by the RGAC, should serve a role as liaison and advocate for pharmaceutical research to federal research agencies, appropriate foundations, and the pharmaceutical industry.

Enhance Opportunities for Federal Funding

There is mixed opinion about the access of pharmaceutical scientists to appropriate NIH study sections. Pharmaceutics and pharmacokinetics research proposals usually are reviewed by the Pharmacology Study Section. It would be useful to identify the number of proposals submitted by pharmaceutical scientists to the Pharmacology Study Section and the funding success of these proposals. More importantly, an assessment of why proposals were not funded (failure to demonstrate significance of objectives, data gathering versus hypothesis testing, originality of idea, poorly prepared proposals, etc.) would be helpful in identifying problems with the review system and solutions, including mechanisms to improve grantsmanship among pharmacy faculty. A full examination of the issues and identification of problems, if they do exist, is required. Such an examination would lay the groundwork for discussions between the Director of Graduate Education, Research, and Industry Concerning Research Opportunities and the Director of NIH. The outcome might include better study section referrals, inclusion of a greater number of pharmaceutical scientists on appropriate study sections, and/or creation of a new study section, but the first step needs to be a clearer identification of the issues and problems associated with obtaining federal funding.

RECOMMENDATION 8: AACP should examine the extent of federal funding of pharmaceutical scientists and propose approaches to enhance the success rate.

Enhance Research Activities of Faculty

Faculty need the opportunity to succeed in their research endeavors. Such an opportunity involves adequate start-up resources and low initial teaching loads for new faculty, combined with appropriate mentoring. It would be very useful for department chairs and other administrators to have information regarding these issues (average dollars for start-up, other forms of intradepartmental support) from schools where new faculty are succeeding in their research endeavors. AACP should define further the specific factors that facilitate research success and the Director should assist in the exchange of information. In addition, AACP should encourage member colleges and schools to provide faculty development programs focused on upgrading the research skills of faculty.

RECOMMENDATION 9: AACP should define factors that help faculty succeed in their research endeavors and the Director of Graduate Education, Research and Scholarship should assist in the dissemination of such information. In addition, AACP should consider mechanisms to enhance the research activities of faculty.

References:


