

# PROPOSED COLLEGE OF PHARMACY UNIVERSITY OF HAWAI'I AT HILO

## INTRODUCTION AND PROGRAM DESCRIPTION

Only five states, including Hawai'i, do not have an in-state pharmacy school or college; and there are no programs to train licensed pharmacists in any of the Pacific Basin countries or territories. One of the primary reasons to provide pharmacy education within a state is to offer the citizens the opportunity to secure a career in pharmacy without the cost and burden of leaving the state. At the present time there are 129 Hawai'i residents attending pharmacy colleges on the mainland, and many more who desire such training but cannot afford the costs of relocation from Hawai'i. Nationally, the trend over the last five years has been a significant increase in both the number of applicants per school and the number of students enrolled. With applicant to acceptance ratios of approximately 8:1, it is becoming increasingly difficult for out of state students to gain acceptance to mainland programs.

The University of Hawai'i at Hilo Strategic Plan includes goals and objectives to offer selected graduate and professional programs that "...help meet the needs of the island and state for professional and pre-professional studies." The Pharmaceutical Doctorate is specifically identified as a strategic initiative that will address this goal.

The American Council on Pharmaceutical Education (ACPE) is the federally recognized accrediting body for professional pharmacy programs. After July 2000, the ACPE only accredits programs of study that lead to the Doctor of Pharmacy (Pharm. D.) degree. The Pharm. D. is a doctoral degree requiring four years of professional education after at least two years of defined pre-professional courses. The pre-professional courses are typically taken as part of a student's undergraduate degree. All of the necessary pre-pharmacy courses are currently offered at U.H. Hilo (see Attachment 1); and the pre-professional curriculum may also be completed (all, or in part) at any regionally accredited college or university.

The mission of the proposed College of Pharmacy will be focused state-wide, as well as on the needs of the U.S.-Affiliated Pacific Basin. Pharmacists are needed throughout the region to meet the growing challenges of providing health care to a population that is growing older and requiring more medications. The College will seek to meet the unique needs for pharmacy education of the various regions and their students. The rural nature of much of Hawai'i and the Pacific presents special challenges to professional pharmacy education. The most serious pharmacist shortages are in the rural areas, and the practice of pharmacy is significantly different in rural communities compared to urban practice. The location of the College of Pharmacy in Hilo, rather than Honolulu, will maximize the likelihood that its graduates will be prepared for and willing to practice in rural settings.

## NEED FOR THE PROGRAM

Numerous government reports have documented a present and long term projected need for licensed pharmacists throughout the country. A Report to Congress by the DHHS Health Resources and Services Administration (HRSA) on the pharmacist shortage describes an unprecedented growth in the demand for pharmacists that is projected to continue well into the future (Attachment 2). With the support of a grant from the HRSA Bureau of Health Professions, UHH conducted an assessment of the need for pharmacy education in Hawai'i and the U.S.-Affiliated Pacific Basin. The results of the needs assessment indicate that there is a current demand for licensed pharmacists in Hawai'i, with many of the larger employers advertising continuously on the mainland in search of personnel. As indicated earlier, there is a strong interest among Hawai'i residents to pursue careers in pharmacy. However, the lack of an educational program in Hawai'i has forced those with sufficient financial resources to compete for increasingly difficult to obtain openings in mainland programs. This lack of opportunity also removes professional pharmacy education as a possibility for those unable to relocate for family or financial reasons.

In addition to the current demand for pharmacists, there are factors that suggest that the need will increase through the foreseeable future. Drug usage has been increasing at an accelerating rate, with the largest increases among those in the older population. As the baby boomers begin to retire the number of people in the age group that has the highest usage of drug therapy will increase dramatically. It is now common for an individual to be taking as many as 7 or 8 drugs at the same time, and it is not uncommon for people to take two or even three times that number. There are also increasing numbers of new drugs on the market, which increases the variety of drugs and drug interactions that must be managed. The pharmacist is the central health care provider in drug management, and this is increasingly true with the shift to a more clinical role for pharmacists throughout the profession and with the new requirement that the entry level degree for national pharmacy licensure is the Pharmaceutical Doctorate.

The demographics of the pharmacy profession also suggest an increasing need for pharmacists. A large percentage of the pharmacy workforce is nearing retirement, which will add significantly to the shortage. There is also a trend for increasing numbers of women to enter the pharmacy workforce, and the data show that female pharmacists generally desire a more balanced lifestyle and work fewer hours than men, thus adding to the shortage.

## CURRICULUM

The four-year professional curriculum (Attachment 3) will include two years of primarily didactic and laboratory based instruction in Hilo. The third year will consist of approximately 50% didactic instruction and 50% clinical experiences. For this year students will be placed in half-time clinical rotations at various

locations on all of the major islands in Hawai'i, and in selected locations in the Pacific Basin. The didactic instruction during year three will be presented using distance learning technology to all of the field sites. The final year of the program will consist entirely of clinical rotations. Some of these rotations will be completed with medical students from the John A. Burns School of Medicine (JABSOM) at U.H. Manoa. The JABSOM administration has indicated its support of the development of the proposed College of Pharmacy and is enthusiastic about the prospect of joint clinical experiences for medical and pharmacy students.

The curriculum described in Attachment 3 was prepared by the Program's academic consultant, Dean Arthur Nelson, from Texas Tech University. It is designed to meet the accreditation Standards of the ACPE. The recommended curriculum extends the general trends that have been developing in pharmacy education over the last several years, rather than directly representing a typical curriculum found in most pharmacy schools.

The curriculum for the Pharm.D. requires a minimum of four academic years to meet the accreditation standards. The Standards define minimum competencies and expected outcomes. The professional curriculum includes the biomedical sciences; pharmaceutical sciences; behavioral, social and administrative sciences; pharmacy practice, and professional practice experiences. The practice experiences are acquired throughout the curriculum as a continuum. The Standards require that faculty address the teaching and learning process and develop systems to assess student outcomes.

The proposed curriculum is intended to be illustrative of what the eventual curriculum will look like. It is necessary to have a curricular model in order to plan such things as class size, staffing needs and building requirements. It is acknowledged that the founding Dean and faculty will create the specific elements of the final curriculum; and will submit them through the appropriate university review process.

## FUNDING AND TIMELINE

Attachment 4 describes a projected six-year budget plan for the development of the College. This plan would have the first class of graduates in 2010. The first two years reflect planning and start-up activities, with successive classes of students enrolling beginning in year three. The planning phase will consist of all of the activities necessary to the creation of a new college at UHH; including program approval, fiscal, staffing, building and curricular issues. Concurrently with the planning for the College of Pharmacy, efforts will be undertaken to publicize the pre-pharmacy curriculum, strengthen the undergraduate science curriculum at UHH in anticipation of increasing enrollment in basic science courses, and offering a Pharmacy Technician training program. The latter program will be offered in Hawai'i and to the Pacific Basin via distance learning;

and is presently being developed in cooperation with the U.H. Community Colleges.

Because the College of Pharmacy is likely to impact selected undergraduate courses in basic sciences (see Attachment 1), resources will be allocated to address these impacts. The major effect of an increase in undergraduate students enrolling in pre-pharmacy courses will be on the Biology and Chemistry departments. In addition to the faculty needed for the professional pharmacy curriculum, a position in each of these two departments will be added to meet the additional demand for Biology and Chemistry courses. Funds have been allocated from the current year's planning grant to upgrade the equipment in the chemistry laboratories, and the pharmacy building plan includes a biomedical sciences laboratory which can be used for undergraduate instruction.

Accreditation Standards mandate that appropriate space for the College of Pharmacy be available. This will require the construction of a new building. An architect is currently working on developing cost estimates and initial schematic design and conceptual drawings for a building based on the space plan in Attachment 6. This information will be used to attempt to secure funding from federal and private sources for the building construction

There are presently no state funds budgeted for this program. Federal funding in the amount of \$700,000 has been awarded for the current year, and the same amount is included in the proposed federal budget for next year. At least this level of funding is expected for the next few years. The federal funds are expected to cover all costs of the planning period, excluding construction. These funds pay for the salaries of the Program Director and Administrative Assistant for the current year. Year two of the planning period will add a position for a Dean of the College. Year three will include positions for a total of four administrative and six professional staff (see attachment 4). Federal funds are expected to cover the costs of these positions throughout the planning period. The total number of faculty and staff required for the college is approximately 36 (see attachment 5). 25 of these will be clinical faculty located throughout the islands. In addition there will be a need for one librarian and the two basic science faculties mentioned earlier.

The College of Pharmacy is proposed to enroll 66 students per year, with 75% of the students from Hawai'i and 25% non-residents. This mix is expected to meet the local demand for pharmacists and allow the College to still have a student body of varied backgrounds. Tuition is proposed to be \$11,000 annually for residents and \$20,000 annually for non-residents. The differential tuition will allow the non-residents to help subsidize the costs of the College for residents. As indicated earlier, there is such a high demand for pharmacy education there should be no difficulty finding qualified students.

The annual operating budget for the College at full enrollment will be approximately 5.5 million dollars. With tuition providing an income of approximately four million dollars, the balance of 1.5 million dollars in operating

funds will be requested from the State. Attachment 4 describes the nature and sequence of costs and income associated with the program over the six-year period leading to the first graduating class. It is expected that much of the net State operating costs (bottom of Attachment 4) will be covered by Federal funds in the early years of the program. The creation and operation of the College of Pharmacy will require sources of funds in addition to those presently allocated to UHH, whether they be from federal, State or private sources.

## BENEFITS OF THE COLLEGE OF PHARMACY

The most obvious benefit of a College of Pharmacy in Hawai'i will be the positive impact on the quality of health care in the State. The shortage of pharmacists, as well as nurses and other health care providers, has a negative impact on the quality of medical care available to local residents. For example, there is increasing nationwide concern about the rising number of medication errors and the resulting illness, injuries and deaths. As the expert in drugs and their effects and interactions, the pharmacist is a crucial element in the solution to such problems. With the national standard of pharmacist training now the Doctor of Pharmacy, it is essential to the quality of Hawai'i's health care that local pharmacists have access to education at this level.

There are also workforce and economic benefits of the presence of the College of Pharmacy at UHH. There is considerable interest in pharmacy education among local residents. However, the lack of educational opportunities has led to unmet career goals while there is a growing shortage of pharmacists, especially in rural areas. There are jobs available and local people who aspire to the professional education necessary to perform them. Yet employers are forced to recruit from the mainland to fill the positions.

The presence of a new professional school will enhance the University's ability to contribute to the needs of the State. For example an independent Pharmacoeconomic/Public Policy Center is a common feature of colleges of pharmacy throughout the mainland. The State Legislature, Executive Branch and other public/private interests have an unmet need for a local independent think tank to evaluate all manner of legislative proposals, drug benefit designs, natural product development and public spending programs related to pharmaceuticals.

There are also benefits to the University of a College of Pharmacy at UHH. Collaborative relationships with JABSOM will open up opportunities for UHH faculty. An influx of new colleagues in the sciences will provide professional stimulation for the faculty and opportunities for collaborative research. The College of Pharmacy will also bring additional resources to the University, in the form of laboratories, research facilities, equipment, grants, etc. These will all contribute to raising the standard of education at UHH.