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The Kentucky Plan: An Innovative Approach to Professional Doctoral Education in Public Health

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ABSTRACT

The Doctor of Public Health (Dr.P.H.) degree is designed to prepare graduates for the highest levels of leadership in public health related careers in both public and private settings. The Kentucky School of Public Health has developed an innovative generalist professional degree program offering an extensive battery of courses based on the body of professional public health knowledge. The degree includes extensive supervised field experience as part of the academic training, linking theory with practice. Issues related to professional degrees, curriculum, accreditation and certification, admission, evaluation, plans for institutional cooperation, and demand are addressed

INTRODUCTION

The Institute of Medicine report, *The Future of Public Health* (1988) describes an "urgent need" for public health leaders. The Doctor of Public Health (Dr.P.H.) degree is an advanced professional practice degree, preparing participants for roles in leadership to protect and improve the health of the public. The Dr.P.H. degree is the highest professional degree for the public health generalist. The degree recognizes achievement of a comprehensive body of technical knowledge in public health and its related disciplines, and

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the ability to initiate, organize, and pursue problem solving of significant issues in public health. The graduate of the Dr.P.H. program will be prepared for the highest levels of leadership in public health practice-related careers in both public and private settings.

Professor Milton Roemer has written extensively about the Dr.P.H. degree (1977, 1984, 1986, 1988, 1993 and 1999). That literature recommends offering a comprehensive battery of courses based on the body of professional public health knowledge, integrated with extensive supervised field experience, and a goal of linking theory with practice in academic training. Roemer proposed didactic work addressing four fields of study: basic tools of social analysis, health and disease in populations, promotion of health and prevention of disease, and healthcare systems and their management. Roemer states "that the Dr.P.H. graduate is far better equipped for the sorely needed public health leadership in America and elsewhere in the world than the customary MD, MPH graduate" (Carpenter and Conway 1996, 67).

The Kentucky School of Public Health seeks to address community needs through the development of an innovative Doctor of Public Health degree program. The goal of the degree program is to prepare graduates with critical thinking and conceptual abilities to integrate new knowledge and methods for public health practice. While public health comprises many clinical and professional disciplines, it has a unique focus on entire populations rather than individual patients. Using a multidisciplinary approach, the degree will provide broad knowledge of the five public health disciplines (health administration, epidemiology, social and behavioral sciences, environmental health, and biostatistics) along with focused knowledge in the student's area of interest. Development of this degree is consistent with public needs in the Commonwealth of Kentucky, recommendations of the Institute of Medicine, and the goals of the University of Kentucky.

TRENDS IN PUBLIC HEALTH DOCTORAL EDUCATION

In 1999, the Pew Health Professions Commission published its fourth report: *Recreating Health Professional Practice for a New Century*, that identified two goals for an academic curriculum in public health: 1) educating professionals who wish to specialize in the traditional public health fields, such as epidemiology, biostatistics, and health administration, and 2) providing professionals from other disciplines with an understanding of public health perspectives, values, and techniques. The report presents three recommendations for public health that are relevant to the Dr.P.H. degree curriculum: 1) addressing the need for public health schools to develop educational programs to upgrade and maintain the competence of public health providers; 2)



public health schools should expose students to and prepare them for multiple sectors in which public health services are provided; and 3) research should be conducted to assess the workforce to facilitate planning and training (Pew 1999).

Fottler (1999) notes that the employers of doctoral graduates are often dissatisfied, as graduates do not have the knowledge, skills, and abilities required to further their missions and goals. With minor variations, degrees duplicate the types of programs most of their faculty were trained in (full time, research oriented, highly specialized, with limited integration of knowledge). He describes evolving models of future doctoral programs in health administration.

1. The traditional Ph.D. program that emphasizes statistical knowledge, in depth knowledge of a single discipline, full-time study, grants and contracts, and the creation of fundamental knowledge. The target market for these graduates will be research oriented university graduate programs, and research oriented government and private organizations.
2. In contrast, the executive program (Dr.P.H., D.H.A, D.Sc., Sc.D.) emphasizes upgrading skills of high level practitioners, integration of knowledge, high quality of teaching and support services, application of knowledge, and opportunities for part-time study. The University of Kentucky Dr.P.H. program would also add "in depth generalist knowledge" to this description.

The target markets for graduates would be practitioner organizations that deliver healthcare services, professional associations, and brokers of new knowledge.

The central recommendation of the 1976 Report of the Milbank Commission for the Study of Higher Education in Public Health states:

"There should be a major redirection and reorganization of higher education, based on the recognition that different groups of personnel with different functions will require different kinds of education programs" (Milbank Commission 1976).

- A. The schools of Public Health concentrate their efforts primarily on: 1) the preparation of people who will function as executives, planners, and policy makers, 2) the preparation of epidemiologists and biostatisticians, and 3) the preparation of research scientists and educators.
- B. Individual graduate programs in other schools in universities should continue concentrating on the preparation of people who will function at the operating level in respective specialty fields in public health.

Dr. Roemer (1977) in an early article about the Dr.P.H. degree addressed this recommendation, suggesting that it is pivotal to public health education



that schools of public health train leaders, thinkers, and teachers in the field while other sectors of the university prepare the public health work force. Roemer, observes that the pillars of public health span biological health, the social sciences, engineering, statistics, epidemiology, the behavioral sciences, and the administrative sciences, and to meet the health needs of the population, academic centers should prepare graduates for a public health role just as law schools educate graduates for a legal role, or medical schools educate for a medical role.

In 1986, Roemer expanded his argument, differentiating the Master of Public Health graduate (frequently a prior graduate with a clinical degree) with limited systematic knowledge of public health problems, from the Dr.P.H. who completes postgraduate training as demanding as that of an M.D. and who would be equipped for professional leadership. In 1988, Roemer continued to advocate the professional Doctor of Public Health generalist degree, setting it apart from clinical and Ph.D. degrees, enhancing his model curriculum, and advocating its adoption in schools of public health. In 1993, Roemer again expanded his model, identifying eight requirements for public health leadership, and considering their relationship to public health education to meet domestic and world public health needs. Roemer (1984 and 1999) continues this line of thinking about the need for more schools of public health and the Dr.P.H. as the ideal academic degree program to prepare health leaders for community health.

An editorial in *The Lancet* (1994) states that a renewed sense of need for and value of linking education with professional application is developing. No matter how healthcare delivery is reshaped, there will be a demand for dependable, population-based information, and in all likelihood public health professionals will manage and use this information. The editorial concludes that schools of public health will prepare professionals for the task in a reinvented educational environment. While many schools of public health have explored the Roemer model of Dr.P.H. education, two relatively new schools (Emory University and the State University of New York-Albany) appear to have used aspects of the model in their curriculum development.

While the proposed University of Kentucky Dr.P.H. is not a mirror image of the Roemer Model, it is a "hybrid" using a three-year advanced curriculum built upon essential Master's degree content. The Dr.P.H. curriculum addresses generalist professional public health education, and field experiences that clearly differentiate it from the traditional Ph.D. curriculum. The curriculum will address basic tools of social analysis, health and disease in populations, promotion of health and prevention of disease, and healthcare systems and their management. As detailed below, a practitioner-academic



public health professional forum has recommended professional competencies for public health (Sorenson and Bialek 1993). The Dr.P.H. curriculum has been designed to reflect these model competencies.

THE DR.P.H. CURRICULUM

The University of Kentucky Dr.P.H. degree is designed as a school-wide generalist advanced professional degree consistent with the Institute of Medicine's recommendations for linkage of academic and practice activities in public health. Students will complete a curriculum spanning the five core discipline areas offered by the School of Public Health. Initially, advanced course work will be available in three disciplines, Health Enhancement and Disease Prevention, Health Services Management, and Epidemiology. Additional concentrations will be developed as other course work is developed in the School of Public Health. In the initial program planning stages, the goal was to develop a curriculum that would prepare students for a variety of careers, including applied research and education. During the planning process, outcomes were reconsidered and the primary focus of the program was narrowed to the preparation of senior level public health practitioners. Consequently, the curriculum has been designed for advanced practice.

Fottler (2000) notes in the late 1960's many universities developed doctoral programs in policy studies to prepare high level policy makers for government, healthcare, education, and other organizations. However, many of these programs were subsequently discontinued when graduates pursued traditional academic positions rather than the policy positions envisioned by the program developers. This paradox also exists for the Kentucky Dr.P.H. program. We anticipate that the curriculum and admission process will address this issue. The didactic coursework, emphasis on field experience, and applied nature of the capstone project, along with an admission process that promotes selection of senior level working professionals with clear career goals, will increase the likelihood of graduates remaining in professional practice. The Dr.P.H. degree is a terminal professional degree and will be organized using the same administrative structure as five other clinical professional degree programs in the Chandler Medical Center. Because it is a professional degree, the Dr.P.H. is governed by the Kentucky School of Public Health, not the University's Graduate School.

Roemer's post baccalaureate five-year curriculum would attract students with limited public health experience, which is contrary to the goals of the Kentucky program. In addition, working senior-level practitioners with a previously earned master's degree are less likely to find an additional five-year full time degree optimal. To concurrently achieve Roemer's objectives and



meet the needs of the working professional target audience, a hybrid model was developed. The Dr.P.H requires applicants to have completed a master's degree-level curriculum in public health (MPH or MSPH), a master's degree in a related area, or a professional degree in an area such as law or medicine and the five introductory-level master's degree core courses as prerequisites to the Dr.P.H. program. This work represents the equivalent of the first two years of Roemer's five-year curriculum. The remaining work is presented in the equivalent of a three-year full-time Dr.P.H. curriculum exclusively offering advanced course work. Applicants with a master's degree but lacking one or more of the prerequisite courses may complete requisite work prior to entry into the Dr.P.H. program. However, this work will not substitute for required courses.

The Dr.P.H. degree will require a minimum of 63 semester hours of course work past the master's degree on a full or part-time basis. Typically, a full-time student will require three years past the master's degree to complete the program. The Dr.P.H. curriculum consists of four components, the core curriculum, advanced course work, the public health field experience, and the public health problem solving or research project. The professional program will include a 27 semester hour required core curriculum consisting of two advanced courses in each of four core disciplines: epidemiology, biostatistics, health services management, and health enhancement and disease prevention, and one advanced course in occupational and environmental health. Students will also be required to complete 21 hours of advanced work including 15 semesters hours of advanced course work related to their career plans and two supervised public health field experiences (six hours).

All students will be required to participate in the Public Health Doctoral Professional Colloquium (one semester hour of credit) each semester of enrollment. The purpose of this integrative colloquium is to encourage contact with both the professional and academic communities and will enable students to become involved with colleagues, libraries, laboratories, and ongoing programs of research and inquiry. The colloquium will integrate the curriculum content of the five core disciplines and will offer students an opportunity to experience the intellectual ferment that characterizes a university. The Colloquium will also be the setting for discussion of development, progress, and presentations of the capstone problem solving projects.

The program also includes two supervised public health field experiences, and a problem solving or research capstone project requirement. As a professional degree, practice is critical to education. The purpose of the field requirement is to encourage exposure to professional public health practice. As a professional degree, the Dr.P.H. values fieldwork as an educational



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experience. Field experiences will be consistent with the Association of Schools of Public Health, Council of Public Health Practice Coordinators report *Demonstrating Excellence in Academic Public Health Practice* (1999). The Dr.P.H. curriculum will include two required doctoral field experiences for all students. Doctoral Field Experience I (two semester hours) will be an introductory, one semester, one day per week experience for a total of 120 hours. Doctoral Field Experience II (four semester hours) will be an advanced one semester, two days per week experience for a total of 240 hours. Students will be placed in public health settings doing work other than that which they are currently employed to do.

The Milbank Memorial Fund Commission for the Study of Higher Education for Public Health report *Higher Education for Public Health* (1976) recommends that educational institutions should develop reciprocal relationships with health agencies and community organizations to bring greater realism to the classroom, and academic expertise to the field. Gellert (1996), states that U.S. schools of public health have recognized the imperative to strengthen the public health practice content of training for future public health practitioners. He also notes those leading schools of public health and community-based health agencies have developed initiatives to improve linkages between academic training and public health practice. Stauffer (1990) reiterates the importance of community involvement and refers to the Roemer model to reconfigure public health education. The School of Public Health has initiated this activity by developing formal agreements for collaboration with the Kentucky State Department of Public Health, and local health departments. Placements will be coordinated with local health departments, the Kentucky Department for Public Health, and private public health settings. A fund is being explored to compensate students for the second field experience while serving as consultants to local health departments in the Commonwealth.

Following completion of a comprehensive determinative examination covering the didactic material contained in the curriculum and application of this knowledge and problem solving in the field, students will initiate a major project as an alternative to the traditional doctoral dissertation. The problem solving or research project requirement is designed as the integrative capstone component of the curriculum, and is intended to build upon the antecedent foundation of course and field work. The project will address a public health problem solving or research topic demonstrating appropriate intellectual rigor and capability as an integrative activity. These projects may be linked to the required doctoral fieldwork. It is anticipated that the problem-based project will be the predominant method of completing this requirement,



although some students may choose a more theory oriented model more closely resembling a traditional Ph.D. doctoral dissertation. The Dr.P.H. curriculum for a full time student is presented in Figure 1. Part time students will complete the same curriculum at a different pace.

All degree requirements for the doctorate must be completed within five years following the semester in which the candidate successfully completes the comprehensive determinative examination that is completed during the final semester of course work. If all degree requirements are not met during the five-year period, degree candidates who provide evidence of the likelihood of completing the degree during an extension of time may be granted such an extension. Requests will be considered only after the candidate has again successfully completed the determinative examination process as currently administered by the program.

The Dr.P.H. program anticipates significant enrollment by part-time students who are working professionals in the healthcare field, and plans to address this through off-campus course offerings and distance education. The opportunity to offer course work in Frankfort (the state capital) is being explored. This will enable marketing to employees of the Commonwealth of Kentucky Department for Public Health. Following initial offerings, the School of Public Health plans to offer degree courses on a statewide basis using interactive compressed video and the Internet. The goal for initiation of distance education activities using interactive video and the Internet will follow implementation of the on-campus program and is being planned for the fourth year of program operation.

The Dr.P.H. degree was approved by the University of Kentucky Board of Trustees in January 2000, and the Kentucky Council on Postsecondary Education in September 2000. The first student class was admitted for matriculation in January 2001. Projected Dr.P.H. admissions are for ten to fifteen students per year. It is anticipated that more than seventy percent of students will be working professional/part-time students, and most courses will be offered in late afternoon or evening sessions. The first class of graduates will complete the program at the conclusion of the third year with part time students graduating in successive years. Attrition will be addressed through a cautious admission policy and aggressive student support services following matriculation.

ADMISSIONS CRITERIA/STANDARDS/PROCEDURES

Although professional degree requirements are at the discretion of the School of Public Health, admission requirements include grade point average, a Graduate Record Examination (GRE) or an equivalent professional examina-



Figure 1: Dr.P.H. Model Curriculum

Year One

Fall Semester	Spring Semester
PH 910, Topics in Advanced Epidemiology and Laboratory (3)*	PH 911, Professional Seminar in Epidemiology (3)*
PH 930, Advanced Biostatistical Methods in Public Health(3)*	PH 921, Professional Seminar in Environmental Health (3)*
PH 940, Health-related Behaviors: Models and Applications (3)*	PH 931, Professional Seminar in Biostatistics (3)*
PH 950, The Well Managed Public Healthcare Organization (3)*	PH 941, Professional Seminar in Health Enhancement & Disease Prevention (3)*
PH 901, Public Health Professional Colloquium (1)*	PH 901, Public Health Professional Colloquium (1)*

Year Two

Fall Semester	Spring Semester
PH 951, Professional Seminar in Health administration (3)*	Advanced Public Health elective (3)
Advanced Public Health elective (3)	Advanced Public Health elective (3)
Advanced Public Health elective (3)	PH 997, Doctoral Public Health Field Practicum I (2)*
Advanced Public Health elective (3)	PH 996, Public Health Project Research (0-12)*
PH 901, Public Health Professional Colloquium (1)*	PH 901, Public Health Professional Colloquium (1)*

Year Three

Fall Semester	Spring Semester
PH 997, Doctoral Public Health Field Practicum II (4)*	
PH 996, Public Health Project Research (0-12)	PH 996, Public Health Project Research (0-12)
PH 901, Public Health Professional Colloquium (1)*	PH 901, Public Health Professional Colloquium (1)*

* Required Course



tion score, and English language ability (TOEFL) for international students will be the same as doctoral degree requirements of the Graduate School. The School will also require all applicants to have an earned Master of Public Health (MPH), Master of Science in Public Health (MSPH) degree, or an equivalent professional degree. Examples of equivalent degrees are programs related to public health such as the Master of Arts in Health Communications, or the Master of Science in Nursing, along with course work equivalent to the five basic core courses in the curriculum of the MPH degree. In addition, "transitional programs" will be established to link appropriate master's degrees to the Dr.P.H. degree. A minimum of three years of significant public health work experience is recommended but not required for applicants. In addition to a standard application form, applicants will submit a statement of career goals, and letters of reference including at least one professional and one academic reference. A formal interview with the admission's committee will be required of all applicants. Students will be admitted as candidates for the Dr.P.H. degree. Formal candidacy is not completed until the candidate successfully completes the required comprehensive examination.

ACCREDITATION/CERTIFICATION

Presently, uniform and universal minimum competencies for public health personnel do not exist. Loos (1995), and Sorenson and Bialek (1993) discuss public health professional forums joining practitioners and academicians to promote recommended competencies. However, state or national agencies have not implemented minimum competencies. In an editorial in the American Journal of Public Health, Sommer and Akhtar (2000) write that the Association of Schools of Public Health and the American Public Health Association have recognized this problem and have appointed a Task Force to examine the provision of credentialing in public health. This credential will address the issue of professionalism in the discipline. As it stands, without licensure, certification, or registration of personnel, the sole measure of professional competence is successful completion of a public health academic degree from a Council on Education for Public Health (CEPH) accredited school of public health. By defining educational quality in terms of competence of graduates, CEPH criteria help to link learning with application. CEPH criteria for accreditation deal with quality of both product and process—the ends to be achieved through public health educational, research, and service activities. CEPH accreditation criteria focus on master's degree education but do not specifically address the Dr.P.H. degree. The sole CEPH reference to doctoral education is that an accredited school of public health must offer at



least one doctoral degree relevant to public health. The Executive Director of CEPH, Pat Evans, notes that the professional degree meets this criterion (Evans 2000).

EVALUATION

The ultimate evaluation of the Dr.P.H. will be linked to its mission, which is contribution to the improvement of the health of the people of Kentucky. However, the precise contribution of Dr.P.H. graduates to this outcome will be difficult to measure. As a proxy measure for this mission, the School of Public Health will use traditional academic measures of outcome including student evaluations and accreditation, and will develop tools for outcome assessment of graduates. Program evaluation will also be conducted in the context of the University's policies and procedures including five-year internal reviews and traditional activities such as student evaluations. In addition, the University has developed a model establishing and measuring outcome goals for all academic programs for use in Southern Association of Colleges and Schools (SACS) accreditation process. As previously noted, the Kentucky School of Public Health will seek Council on Education in Public Health (CEPH) accreditation.

The Administrative Council of the School of Public Health has agreed that while these measures are valuable, they are not sufficient for development of an innovative professional degree program. The Administrative Council has made a commitment to develop its strategic planning and evaluation activities in the context of an innovative evaluation model, use of the Malcolm Baldrige National Quality Award. The Baldrige Award program offers a means to coordinate these activities, and coordinate assessment of program performance. Academic Affairs, Evaluation, Student Affairs, and External Advisory Committees will conduct business and make decisions in the context of the Baldrige criteria. In addition to applying the Baldrige National Quality Award model as the framework for the previously referenced evaluation mechanisms, the Dr.P.H. program intends to seek national recognition as an innovative, high quality program through active pursuit of the Baldrige Award.

The Baldrige National Quality Award Program is an internationally-recognized program for recognition of public-private partnerships established by Congress in 1987 to promote and recognize quality awareness and business performance excellence. In 1998, federal legislation was enacted to make educational institutions and healthcare organizations, as well as industry, eligible for the Malcolm Baldrige National Quality Program. The



educational criteria are designed to diagnose an organization's overall performance management system (Baldrige National Quality Program 1999). In summary, the Baldrige educational criteria address: 1) leadership, 2) strategic planning, 3) student and stakeholder focus, 4) information and analysis, 5) faculty and staff focus, 6) educational support process management, and 7) school performance results. The criteria are designed to focus attention on the critical factors that drive an organization's overall success, and are measured by systematic and ongoing internal activities, as well as written documentation and a site visit by a Baldrige panel of examiners.

Harry S. Hertz (1999), Director, Baldrige National Quality Program believes that implementation of the Baldrige Educational Criteria for development of a terminal professional degree in public health would be a unique opportunity to teach the use of the Baldrige criteria for healthcare organizations, while simultaneously implementing the educational criteria for program performance (Hertz 1999). Hertz believes that the criteria will improve organizational performance practices and capabilities, provide integrated results-oriented performance requirements, facilitate communication and sharing, foster development of partnerships, and serve as a working tool for improving planning, training, and assessment.

Noteworthy aspects of the educational framework include measurement of concepts of excellence through year-to-year improvement in essential measures of performance, leadership, and performance improvement relative to benchmarks. The Baldrige Award recognizes well-conceived and well-executed curricula and criterion-referenced assessment strategies linked to mission and goals. The award requires a focus on improvement, ongoing evaluation, and the requirements of users of products and services, including current and future students, stakeholders, including parents, employers, other schools, and communities. The Award criteria have a primary focus on teaching and learning, followed by research, and are consistent with the professional orientation of the Dr.P.H. degree.

RESOURCES

The need for resources to develop a high quality Dr.P.H. program is clearly recognized by faculty and administrators. The Dr.P.H. program is viewed as an important component of the University and Medical Center strategic plans, as well as a requirement for accreditation of the School of Public Health. The School of Public Health has extended new or joint faculty appointments to more than 130 university faculty with a focus upon the Division of Health Services Management and the Department of Preventive Medicine. The



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School's new faculty appointments include two endowed chairs and pursuit of additional chairs and professorships. The University's Dr.P.H. program feasibility proposal calls for an additional ten full-time equivalent faculty, along with support staff, assistantships, minority student support, and related resources for program implementation. These resources will be requested in increments over the next three budget years as the program expands its teaching commitments.

As a new program, initial growth will call for a substantial commitment by existing faculty in the teaching of new courses, advising, and serving on project committees. A state program offering matching funds for endowments of new faculty chairs and professorships will be used to maximize resources. University administrators, including the President, the Medical Center Chancellor, and the Deans of the five Medical Center Colleges, have enthusiastically supported the establishment of the Dr.P.H. and School of Public Health. Although presently in suspension, the Kentucky Council on Postsecondary Education has offered a university funding formula that reimburses state universities at a higher rate for doctoral education than baccalaureate or master's degree education. Reinstitution of the formula model will generate additional resources for the Dr.P.H. program. As a professional degree program, Dr.P.H. tuition may also be set at a rate higher than traditional graduate school tuition. Initially, tuition will be set at the same rate as the Graduate School. However, this decision may be reconsidered in the future as the program and budget evolve.

PLANS FOR INSTITUTIONAL COOPERATION

The Dr.P.H. degree will seek to promote inter-institutional relationships with other universities as a means to maximize quality, access, and efficiency. As the only School of Public Health and Dr.P.H. in the Commonwealth of Kentucky and many contiguous states, discussions are taking place to collaborate with the complementary public health education activities of the University of Louisville, Western Kentucky University, Eastern Kentucky University, and other regional public and private institutions. An example of this collaboration is an inter-institutional plan to develop and offer the five MPH core courses required as prerequisites for the Dr.P.H. program on a distance education basis through Kentucky Commonwealth Virtual University. In addition, appropriate doctoral course work will be transferable between the University of Kentucky and the University of Louisville. Cooperative educational, research, and service efforts are also being established with schools of public health in other states.



PUBLIC DEMAND

Gebbie (1999) notes that "the challenges facing public health are enormous and require a workforce in governmental, voluntary, and interested private health agencies that is skilled not only in the technology of public health but also in its philosophy and framework." While there is presently limited information available about the public health workforce in the U.S., Gebbie recommends a systematic educational effort to enhance workforce competency, including development of leadership and management competencies.

Recognizing the severe limitations in timely and publicly available public health work force data, several approaches were used to assess demand for the Dr.P.H. degree program. In addition to informal communications, expert opinion was sought. External data was extrapolated to estimate demand in Kentucky, and the professional literature was reviewed for recommendations. Academic deans of five CEPH accredited schools of public health were polled by telephone to assess the need for a Dr.P.H. degree program and were asked four questions.

1. "Do you see an increase or decrease in demand in the number of doctorally-prepared public health professionals?" Four dean's reported an increase in demand; the fifth indicated "steady" demand.
2. "Do your doctorally-prepared public health graduates have difficulty with job placement?" All five deans reported no problems with placement.
3. "Are you currently recruiting doctorally-prepared public health professionals?" Four of the five deans reported active recruitment.
4. "Overall, do you think the field of public health needs more doctorally-prepared personnel?" Four dean's responded yes, the fifth indicated continuing demand at a level constant with the present.

Michael Gemmel, former Executive Director of the Association of Schools of Public Health, was also contacted regarding demand for Dr.P.H. graduates. Mr. Gemmel (1999) responded that there has been notable growth in the number of schools of public health and in the total enrollment in existing schools. He states that as a result of the changes taking place in healthcare delivery there is a need for people trained in this discipline and the Dr.P.H. program at the University of Kentucky would benefit the Commonwealth of Kentucky. He further noted the value of non-traditional and distance education for Kentucky.

Enumeration of public health employment opportunities is extremely difficult. The National Association of County and City Health Officials (1997) reports that the work of public health goes on in a variety of settings, including local, state, and federal government health agencies; private sector healthcare



organizations that provide consultative, advocacy, and clinical services; and services as well as universities and schools that conduct research in public health. Other public health functions are carried out by environmental, agricultural, and education departments. This diversity of employment locations has made it difficult to enumerate precisely the composition of the workforce.

The highly regarded Milbank Memorial Fund Commission for the Study of Higher Education for Public Health (1976) addressed Dr.P.H. public health workforce requirements in their 34 recommendations for the restructuring of higher education for public health. Three of these recommendations are directly relevant to the proposed Doctor of Public Health degree:

1. A concerted national effort should be undertaken to develop a larger and better qualified cadre of professional personnel capable of coping with the complex and changing health problems of the nation.
2. In order to produce professional personnel with appropriate knowledge, skills, and perspectives, so that they might deal effectively with the new challenges in public health, all institutions providing higher education for public health should build their educational programs on the unique base for public health.
3. There should be a major redirection and reorganization of higher education for public health, based on the recognition that different groups of personnel with different functions will require different kinds of education programs, and schools of public health should concentrate their efforts in three areas, including the preparation of executives, planners, and policy-makers.

In summary, many recommendations exist for the evaluation of the U.S. public health workforce. However, efforts at the state and national levels are presently rudimentary. Despite the absence of detailed data on the size, composition, and distribution of the workforce, a consensus exists that current demand exceeds supply.

STUDENT DEMAND

As previously noted, there are not any similar degree programs in the Commonwealth of Kentucky or in close proximity in contiguous states. Anecdotal information, inquiries from prospective students, and professional judgement indicate that there is demand for such a program. Recognizing the extraordinary growth in the number of schools of public health, it is reasonable to infer that these programs would not be under development without public need and student demand. Currently, Kentucky residents seeking the Dr.P.H. degree must leave the Commonwealth for their education



and may not return at the conclusion of their education. In addition, a primary target for the program will be non-traditional students currently employed in public health and related professions who are seeking to enhance their knowledge to perform public health activities. A significant audience will be personnel currently employed in municipal, county, and state public health departments seeking increased knowledge to achieve leadership roles in public health.

As previously noted, a national shortage of public health professionals exists. This is documented in reports from the Pew Health Professions Commission, the U.S. Department of Health and Human Services, Bureau of the Health Professions, and the Association of Schools of Public Health. Berman and Novotny (1999) report the results of a California survey where 52 percent of respondents are interested in participating in public health extended degree programs and continuing education. These references fail to differentiate between baccalaureate, masters, doctoral, and continuing education. However, it is reasonable to assume that senior level public health positions require additional professional education and credentials.

Requests for program information and applications are a short-term measure of local demand for doctoral professional education. The Dr.P.H. program is extremely young and did not admit its first class until spring semester, 2001. To date, program promotion has been limited. Request for information and applications exceed program enrollment goals. The characteristics of the first cohort of applicants are extraordinary. Their academic credentials are excellent, and they are senior-level practitioners. Applicants include administrators in the state and local health departments, the president of a state health professional association, nurses, physician assistants, and social workers involved in clinical and consulting activities, and senior-level administrators from hospitals, insurance, and long-term care. It is conceivable that the first cohort may over-represent senior level practitioners, as there may be a preexisting demand for locally available doctoral professional education. Applications demonstrate similar characteristics for the second cohort of applicants. In planning for the program's future, trends will be carefully monitored to evaluate future demand, curriculum, and class size.

CONCLUSIONS

The Kentucky School of Public Health has developed an innovative, generalist professional doctoral degree program linking public health theory with practice. The curriculum offers an extensive battery of courses based on the body of professional public health knowledge, and integrated with extensive supervised field experience as part of the academic training. Based upon the



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framework developed by Milton Roemer, the Dr.P.H. is an advanced professional practice degree designed to prepare students for careers as senior-level administrators, applied researchers, policy makers, and educators, and providing leadership to protect and improve the health of the public. Students will complete a curriculum spanning the five core discipline areas offered by the School of Public Health. Initially, advanced course work will be available in three disciplines. Additional disciplines will be added as additional course work is developed. The Dr.P.H degree requires applicants to have completed a masters degree level curriculum incorporating the introductory level core course work and the equivalent of a three year full time Dr.P.H. curriculum offering advanced course work exclusively. The ultimate evaluation of the Dr.P.H. will be its contribution to the improvement of the health of the people of Kentucky. However, the precise contribution of Dr.P.H. graduates to this outcome will be difficult to measure given the limitations of traditional academic measures of outcome. To address accreditation and performance appraisal, the program will utilize the Malcolm Baldrige National Quality Award Program for assessment of educational program performance. The Dr.P.H. degree was approved by the University of Kentucky Board of Trustees in January 2000, and the Kentucky Council on Postsecondary Education in September 2000. The first student class was admitted for matriculation in January 2001.

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