

Executive Summary – Master of Public Health at UM-Columbia

I. EXECUTIVE SUMMARY

The University of Missouri-Columbia (UMC) is proposing a new Master of Public Health (MPH) degree program. The program will be a collaborative endeavor of many divisions of the university and will attract traditional students and practicing health care professionals. The goal of the proposed program is to provide high quality training to enhance the state's public health workforce. Missouri's public health preparedness and responsiveness depends on increasing the size of the workforce and its level of education. The program will prepare a cadre of public health professionals to address state and national public health concerns.

While strong programs in public health are common in AAU universities, UMC currently lacks a public health degree program. The extensive public health-related expertise and coursework already in place at UMC make it the ideal institution to develop a degree program that complements, rather than competes with, existing public health programs provided by other Missouri universities. UMC has the opportunity to become an acknowledged leader in public health, with unique niche areas in veterinary public health and health policy.

Public health, by definition, is a multidisciplinary field, and UMC's broad base of social and life science expertise supports the efficient development of a nationally respected public health program. Existing programs in Medicine, Health Professions, Nursing, Nutrition, Social Work, Agriculture, Statistics, Law, Business, Journalism, and Extension will provide the foundation of an academically rigorous and unique public health educational program. The integration of Veterinary Public Health into the MPH program will give UMC a unique public health role in the U.S.

III. INTRODUCTION

The University of Missouri-Columbia proposes a new Master of Public Health (MPH) degree program. Public health protects the lives of individuals and promotes the health of communities. For example, public health organizations are responsible for directing efforts to reduce the spread of infectious diseases (e.g., flu, HIV, polio), protect food and water supplies, and respond to natural disasters. Public health professionals work to reduce lead exposure and poisoning among children and promote healthy lifestyles. Vaccine development and distribution are central to public health as are efforts to eliminate or reduce the effects of chronic illnesses (e.g., cancer, arthritis, and diabetes; Turnock, 2004). Public health combines education, science, and service to improve the lives of Missourians.

This MPH program proposal is a response to the growing need for public health education, research, and service in the state. Missouri has many challenging public health problems. In 2003, Missouri spent an estimated \$30 billion for health care, averaging more than \$5,000 per person (Thorpe, 2003). Missouri's fetal and infant mortality rate is at its highest level in a decade, up 15 percent from 1999 to 2002 (Missouri Department of Health and Senior Services, 2003). Infant mortality, premature birth, and low birth weight rates are higher in Missouri than in neighboring states and the nation. In addition, recent health disparities research has revealed that the infant mortality rate for Blacks is almost three times higher than for Whites. The prevalence of overweight and obese children and adolescents has more than tripled in the last two decades. An assessment of 20,000 Missouri 5th and 9th graders found that nearly 40% were already overweight or at risk for being overweight. Missouri ranked 6th in prevalence of adult cigarette smokers and 5th in prevalence of high school student cigarette smokers among U.S. states. Health care costs from tobacco use in Missouri account for over \$1.7 billion annually. Also, Missouri mortality rates for heart disease, stroke, and lung, colorectal, and breast cancer are well above the U.S. average (Simoes, Holt, & Miller, 2000). Missouri is often among the highest ranked states for percentage of persons who smoke, are obese, and exhibit other unhealthy behaviors (Missouri Department of Health and Senior Services, 2004).

In addition, the nation has begun to prepare for possible influenza pandemics that may derive from avian sources. The federal government recently included an appropriation of \$3.8 billion to prepare for an avian flu outbreak. These types of viral-based diseases are largely unpredictable and potentially deadly to thousands of Missourians because Missouri ranks 3rd nationally in turkey production and 12th in broiler production. Consequently, Missouri citizens are at greater risk for exposure to an avian origin flu pandemic than the general population.

Within the field of veterinary medicine three emerging issues have created a burgeoning interest in public health. These issues are 1) emerging zoonotic and food borne diseases (West Nile virus, avian influenzae, bovine spongiform encephalopathy, Ebola and Marburg viruses), 2) the potential for agro-terrorism within the US (anthrax, plague and foot and mouth disease) and 3) the recognition of the unique role population-based preventive care has in maximizing the productivity of agriculture. The Centers for Disease Prevention and Control (CDC) indicate that more than 60% of emerging infectious diseases, including hantaviruses, arboviruses, arenaviruses, SARS, and monkeypox, are derived from animals. Also, all bioterrorism Category A threat agents, with the exception of smallpox, and all Category B threat agents are zoonotic.

In addition, animal diseases are the single largest impediment to livestock production and have been recognized as having a direct, adverse effect on food security, the national economy, and public health. These emerging concerns have created a unique unfilled niche for veterinarians with skills including 1) expertise in livestock health and production, 2) an understanding of interactions between human and animal populations and the impact of these interactions on human health, 3) the tools for quantitative risk assessment (epidemiology and biostatistics). Societal needs dictate the training of a cadre of practitioners with appropriate skill sets needed to protect public health.

Missouri's public health education programs are not meeting the needs of the state. Missouri's public health workforce does not, by and large, have graduate training in public health. Many state and local public health workers do not have formal public health training. For example, environmental public health specialists may have a strong background in the natural sciences, but typically have little or no training in public health. Also, the field of veterinary public health is experiencing particularly strong market demand. In a report from the Association of American Veterinary Colleges titled *Emergency Needs in Veterinary Human Resources* (April 15, 2003), Hoblet et al. reported that the United States Department of Agriculture predicts a shortage of 584 Veterinary Medical Officers by 2007. In addition, there is an extreme shortage in other agencies and businesses of DVM, and in PhD scientists in epidemiology, pathology, and infectious diseases. The Centers for Disease Prevention and Control (CDC) currently employs 99 veterinarians, but the director reports a desire to hire an additional 150 public health veterinarians in the next two years (Osburn, 2005). Appropriately trained individuals are not available in large enough numbers, however.

The Association of State and Territorial Health Officials (ASTHO) has documented an impending crisis related to public health worker shortages (ASTHO, 2004). They state that "the most difficult challenge state and local public health agencies face in developing the capacity to respond to terrorist events, emerging infectious diseases, and other public health threats...is assuring a qualified workforce is available to carry out these functions." In 2004, ASTHO collaborated with the Council of State Governments to conduct a survey about public health workforce in the states. The results indicated that there is a current public health workforce crisis described as a "perfect storm" that has created an enormous leadership void in public health policy development, program implementation, and fiscal responsibility. Chronic shortages of public health personnel are expected to persist in a majority of states. The necessity of increasing the number of well-trained public health professionals is even more urgent because the existing workforce is aging and substantial attrition is expected in the next ten years. Missouri and other states are facing chronic shortages of public health personnel. The survey of public health agencies indicated that the workforce shortage cut across all areas of public health, but that the occupational classes most affected by the workforce shortages include nurses, epidemiologists, laboratory workers, environmental specialists, and administrators/managers. They conclude that an adequate supply of competent public health professionals is critical to the governmental public health infrastructure, and that advanced specialized training and education is required to help alleviate the shortages (ASTHO, 2004).

A report published in the *Journal of Veterinary Medical Education* sponsored by the USDA/APHIS, USDA/FSIS, and the American Association of Veterinary Colleges stated that

veterinary population medicine and public health require a minimum of 500 entrants each year to meet anticipated service needs (Hoblet et al., 2003). Approximately 20% of new veterinary graduates would be needed to fill these critical public health positions. The combined DVM/MPH program and the MPH in the area of veterinary public health are ideally suited to prepare veterinarians for these careers in government service, corporate veterinary medicine and livestock population health.

The proposed MPH program will help alleviate these state shortages by providing graduate education in public health, with specific concentrations in critical public health domains. The graduates of the MPH program will help meet the state's workforce needs (please see Appendix A for letters from Julie Eckstein, DHSS Director, Shane Brookshire DVM, State Veterinarian, Donna Mannello DC, Chair of the State Board of Health, Stephanie Browning, Director of the Boone County Health Department, and Mahri Skala, Executive Director of the Missouri Association of Local Public Health Agencies). Additional discussion of market demand and societal need can be found on pages 1w-1x.

The proposed MPH will also allow the University to directly address emerging public health needs in the state, such as improving Missourians' preventive health behaviors, and providing public health care to underserved populations. It will also help address national public health issues, such as applied health policy and emergency preparedness, and international issues, such as prevention and control of zoonotic-based diseases (e.g., avian influenzae).

In addition, a significant demand for an MPH program exists among both traditional and non-traditional students. A web-based survey was developed to assess current student demand for the MPH. This survey was completed by 844 traditional students. Nearly ten percent (9.7%) of the students indicated they would be *very likely* to enroll in an MPH program if it were offered, while 25.2% of this group indicated they were *likely*, for a total of 278 "likely and very likely" students. A similar survey was completed by 208 employees of the Missouri Department of Health and Senior Services, Audrain Medical Center in Mexico, Cooper County Memorial Hospital in Boonville, Fulton State Hospital, and UMC Health Care and Truman Memorial Veterans' Hospital. Forty-seven respondents (24.1%) indicated they would be *very likely* to enroll in an MPH program in the next two years if it were offered, while 107 respondents (54.9%) indicated they were *likely*.

The results of these surveys are consistent with the market demand and indicate a strong demand for the MPH program among both traditional and non-traditional students, including public health employees. Additional detail of student demand has been included on pages 1v-1w and in Appendix C.

The public health program will require 45 graduate credit hours and can be completed by traditional students in 2 years. Three concentrations will be offered: Public Health Policy and Administration, Veterinary Public Health, and Health Promotion and Disease Prevention. Dual degree programs will also allow students to complete complementary degrees efficiently. In addition, practicing professionals and other non-traditional students will be able to obtain the MPH degree through a Professional Program that will be designed to meet the needs of these students.

The proposed degree program is the product of collaboration among several academic units at UMC, including Medicine, Nursing, Health Professions, Social Work, and Veterinary Medicine. These units have committed to work collaboratively to capitalize upon UMC's existing public health strengths. The public health program will maintain high academic standards, but be offered through variety of instructional methods to suit both traditional and nontraditional students in an efficient manner. Rigorous, science-based curricula involving both formal coursework and field experiences have been assembled for this program proposal. In addition, the public health faculty members are engaged in cutting-edge public health research and many are engaged in service projects that enhance the health of Missourians. Together, these components will bring national prominence to the MPH program, the university, and the state.

IV. Form SE: STUDENT ENROLLMENT PROJECTIONS

**Table SE-1. Total Student Enrollment Projections
Based on Market and Student Demand**

Year	1	2	3	4	5
Full time	14	27	32	36	38
Dual degree	12	24	42	54	60
Part time	12	27	29	33	38
Total	38	78	103	123	136

**Table SE-2. Enrollment at the end of Year 5
for the program to be financially and academically viable**

YEAR	5
Full time	27
Dual degree	24
Part time	27
Total	78

Student Enrollment Projections Based on Student Demand

The projected numbers of students enrolled in the public health program based on market and student demand data are provided in Table SE-1. Survey data and information from public health directors indicates that student demand for the proposed MPH is strong. Detailed discussion of student demand is provided on pages 1v-1w. The data provided in Table SE-1 reflects only those students who will be generating new credit hours. That is, this table provides the numbers of students who will be new to the university and those who are already enrolled at the university, but will be generating new credit hours. Those students who are enrolled at the university and are likely to transfer from another program to public health were not included in these projections. Initially, enrollment will be capped at 150 students.

The MPH program will be both academically and financially viable if 78 students are enrolled after five years. This estimate is provided in Table SE-2.

Few students are expected to transfer from other programs such as social work, public affairs, and programs in the health professions. More likely, students in other areas, such as agriculture, management and informatics, and the social and behavioral sciences may see value in combining their degree programs with public health. In order to augment other programs instead of detracting from them, formal dual degree programs will be established in many areas. For example, in addition to those mentioned above, dual degrees with business, public affairs, medicine, nursing, and veterinary medicine will be established. Further details are provided below.

As conceptualized, the public health program will provide three concentrations: Public Health Policy and Administration, Veterinary Public Health, and Health Promotion and Disease Prevention. The student enrollment projections by concentration and type of program are

provided in Table SE-3. *Please refer to Appendix B for further detail regarding MPH student enrollment numbers and credit hours projected over five years.

Table SE-3. Enrollment Projections by Concentration and Type of Program.

PROGRAM	YR 1	YR 2	YR 3	YR 4	YR 5
Public Health Policy and Admin- 3 YR Dual (e.g., MPH/MBA, MHA, MOT)	2	4	7	8	8
Public Health Policy and Admin- Professional	2	4	5	6	6
Public Health Policy and Admin- 2 YR Traditional	6	12	14	16	16
Veterinary Public Health – 4 YR dual (DVM/MPH) degree	4	10	16	24	28
Veterinary Public Health – Professional	2	5	6	7	8
Veterinary Public Health – Traditional	2	5	6	6	6
Health Promotion and Disease Prevention – 5 YR Dual degree (MD/MPH)	2	4	7	10	12
Health Promotion and Disease Prevention – 3 YR Dual degree (e.g., MPH/MSW; MSN, MHA)	4	8	12	12	12
Health Promotion and Disease Prevention – 2 YR Traditional	6	10	12	14	16
Health Promotion and Disease Prevention – Professional	8	16	18	20	24
TOTAL	38	78	103	123	136

Graduates of the public health program will not only be in high demand, they will obtain competitive salaries. The following table was compiled using 2004 data available from the US Department of Labor, Bureau of Labor Statistics (BLS, 2004) (http://stats.bls.gov/oes/current/oes_nat.htm). It provides examples for income estimates of program graduates. For the first three occupations (*) the completion of an MPH will often be the primary employment qualification. It should be noted, however, that many of these positions will be filled by candidates with additional training.

It is noteworthy that incomes for all three of these job descriptions substantially exceed the national average income. The additional three job categories are provided to give income estimates for graduates who are already employed in a health related professions (nurses, physicians, veterinarians) who will pursue an MPH degree as a mechanism for career advancement and continuing education. Focused statistics for public health careers within these professions are not available; however, based on BLS data we are confident that graduates will financially rewarding employment.

Employment Function	Total Employment US	Annual income (\$)
Medical and Public Health Social Workers*	108,290	\$42,250
Health Educators*	49,300	\$43,150
Epidemiologists*	3,520	\$56,580
Registered Nurses	2,338,530	\$55,680
Veterinarians	48,290	\$76,320
Physicians	486,570	\$149,00
National Average of All Occupations	129,146,700	\$37,440

Occupational projections for public health in Missouri were sought through the Missouri Research and Information Center (MERIC). Because MERIC does not collect data on careers clearly identified as public health, except for medical and public health social workers, the information from MERIC was of limited use. Medical and public health social work careers were graded as B+ (Above Average) for growth in Missouri through 2012. In Kansas City and Southwest Missouri, medical and public health social work careers received A- grades for growth.

V. FORM PS: PROGRAM STRUCTURE

A. Total credits required for graduation: 45

B. Residency requirements, if any: Must complete a minimum of 24 semester hours of UMC graduate courses taught by UMC faculty.

C. General Education: Not Applicable

D. Major Requirements/Concentration Areas: Total Credit Hours = 45

D1. Public Health Policy and Administration Concentration

The Public Health Policy and Administration concentration addresses a need for developing administrators, program managers, and evaluators for service in Public Health settings, such as county and municipal health departments, and other governmental public health programs. Graduates of this program will be able to frame effective health policy, develop consumer-centric health programs, assume operational and strategic management responsibilities, analyze program effectiveness, and develop innovative solutions for application to a wide range of public health initiatives. Their ability to provide leadership and technical expertise in addressing health issues significant to future population needs will be invaluable.

Curriculum – Required Courses (36 or 39 credit hours)

Principles of Public Health*	3
STAT 7410 Biostatistics I	3
NURS 8100 Epidemiology for Public Health Practice or equivalent	3
Social and Behavioral Sciences in Public Health*	3
Environmental Health*	3
HMI 7410 Health and Human Service Systems	3
HMI 8450 Methods of Health Service Research	3
NURS 8130 Developing and Evaluating Public Health Programs	3
Public Health Financial Management*	3
HMI 7401 Health Ethics	3
PA 8520 Hum Res Mgmt & Devpmt in Pub & Nonprofit Sector	3
Field Internship	3 or 6

Suggested Electives (6-9 credit hours, depending on the internship)

HP 7310 Health Policy	3
PA 7000 Health Economics	3
HMI 8450 Methods of Health Service Research (part II)	3
HDFS 8710 Children, Families, and Public Policy	3
SOWK 8200 Family and Child Welfare Policies and Programs	3
SOWK 8300 Advanced Social Policy for Planning and Adm.	3
HMI 7430 Design and Mgmt of Health Information Systems	3
NURS 8120 Community-Based Public Health Interventions	3
PA 8530 Strategic Planning & Performance Measurement	3

* Course to be developed

D2. Veterinary Public Health Concentration

The Veterinary Public Health concentration will provide detailed working knowledge of quantitative assessment of risks and health consequences. This quantitative expertise will build upon broad-based veterinary biomedical knowledge. Graduates will be employed in the management of the interface between animals and human beings to prevent human diseases transmitted from animals or foods of animal origin.

Required courses (35 credit hours)

STAT 7410 Biostatistics I	3
VPB 8421 Epidemiology or equivalent course	2
VPB 8458 Veterinary Public Health	3
VMS 8431 Research methods and data analysis	2
HP 7300 Health Care in the United States	3
VPB 5580 Veterinary Informatics	1
VPB 5552 Veterinary Bacteriology I	2.5
VPB 5553 Veterinary Bacteriology II	2.5
VPB 8454 Veterinary Virology	2
VPB 8457 Veterinary Parasitology	5

VBMS 5509 Veterinary Toxicology	3
VMS 8450 Research in Veterinary Medicine and Surgery	6

Electives (7 credit hours)

Biostatistics II*	3
Quantitative Veterinary Epidemiology	3
FCM 8430 Applications of Evidence Based medicine I	3
FCM 8431 Applications of Evidence Based medicine II	3
FCM 8421 Clinical Epidemiology/Evidence based medicine	3
Food Animal Production Medicine	6
Any graduate level statistics course (7000 or greater)	
Any course that is a requirement for another concentration (7000 or greater)	

* Course to be developed

D3. Health Promotion and Disease Prevention Concentration

The Health Promotion and Disease Prevention concentration will prepare students to be public health practitioners and to contribute to the mission of public health. The mission of public health is “the fulfillment of society’s interest in assuring the conditions in which people can be healthy” (IOM, 1988, p. 40) and emphasizes community health. The population focus of public health requires the combination of didactic and field work that focuses on public health as a social institution, a discipline and as a practice (Last, 1995). Students of this area will explore various approaches to the assessment and diagnosis of vulnerable and at-risk populations with regard to health-related needs, resources, and environmental influences. These approaches will enable Health Promotion and Disease Prevention graduates to collect and analyze data that document the needs of urban and rural target populations and at-risk families and individuals within designated populations. Graduates will be trained to analyze legal, economic, and political trends and issues that influence health and illness. The Health Promotion and Disease Prevention area will emphasize evidence-based policies, programs, and service-delivery recommendations to address specific community health concerns within designated populations, and will feature tactics for empowering and mobilizing target populations in collaborative public health efforts.

Required Courses (33 or 36 credit hours)

Principles of Public Health*	3
STAT 7410 Biostatistics I	3
NURS 8100 Epidemiology for Public Health Practice	3
Social and Behavioral Sciences in Public Health*	3
HP 7300 Health Care in the U.S.	3
HP 7310 Health Policy for the Health Professional	3
NURS 7210 Human Health and the Environment	3
NURS 8120 Community Based Public Health Interventions	3
NURS 8130 Developing and Evaluating Public Health Programs	3
SOWK 8300 Advanced Social Policy for Planning & Adm.	3
Field Internship*	3 or 6

Suggested Electives (9 or 12 credit hours, depending on internship)

Biostatistics II*	3
Epidemiology II*	3
SOWK 8200 Family and Child Welfare Policies and Programs	3
SOWK 8953 Evaluative Research in SW Planning & Adm.	3
HMI 7401 Health Ethics	3
NURS 7200 Women's Health	3
NUTR 8340 Nutrition in Human Health	3
HDFS 7510 Administration of Programs for Children and Families	3
HDFS 8710 Children, Families, and Public Policy	3

* Course to be developed

E. Requirements for Thesis, Internship or Other Capstone Experience

Each of the three concentrations requires a 3 or 6 credit-hour field experience for graduation. The in-depth, integrative internships solidify the knowledge base and skills sets of the students. For example, in the Veterinary Public Health concentration, students may participate in an employment-based internship to be followed by a written report of the internship as it relates to public health. Possible venues for internship include the Department of Agriculture, Division of Animal Health in the State Department of Agriculture, the Centers for Disease Prevention and Control, the United States Department of Agriculture, or the Food and Drug Administration. Students who choose to complete a research project might complete one of the following:

- An analysis of existing datasets and write a manuscript in the fields of veterinary public health suitable for submission to a peer-reviewed journal;
- A critical analysis, review, commentary or editorial relevant to the fields of veterinary public health suitable for submission to a peer-reviewed journal; or
- Collection and analysis of original data resulting in the production of a manuscript in the fields of veterinary public health suitable for submission to a peer-reviewed journal.

F. Course Descriptions

The course descriptions are provided in Appendix D. The vast majority of courses listed in these plans of study are existing courses routinely taught at UMC. A sample degree program is provided in Appendix E.

G. Any Unique Features such as Interdepartmental Cooperation

The proposed program is highly interdisciplinary. It combines existing strengths and will augment ongoing educational, research, and service programs. All of the concentrations entail completion of course originating from at least three cooperating divisions.

H. Potential online and off-site courses

Non-traditional teaching methods will be needed to best meet the educational and career needs of non-traditional students. Professionals and other non-traditional students vary in their education, work experience, and career goals. In addition, unlike traditional college students, the non-traditional students are likely to be dispersed across Missouri. UMC is committed to providing such students with high quality public health education in alternative formats. UMC has the resources and experience to offer public health courses online, off-campus, and during evenings and weekends.

The specific course delivery methods will be developed after approval of the MPH proposal. At that time, the program director and program personnel will conduct an assessment of non-traditional student needs with regard to course delivery. The public health program director and personnel will meet with key stakeholders, such as the Missouri Association of Local Public Health Agencies, the Department of Health and Senior Services, and non-traditional students who have expressed interest in the program. From this assessment and in consultation UMC experts, including MU Direct and UMC Educational Technologies, a plan will be developed to provide the MPH coursework in a high quality, efficient manner. All online or off-campus courses will be monitored by the Public Health Program Executive Committee using both peer review and student evaluations, including mid-course electronic evaluations.

VI. Form FP: FINANCIAL PROJECTIONS

FINANCIAL PROJECTIONS					
	YEAR 1*	YEAR 2	YEAR 3	YEAR 4	YEAR 5
1. Expenditures					
A. One-time					
New/renovated space	0	0	0	0	0
Equipment	33,000	0	0	10,500	0
Library	0	0	0	0	0
Consultants	3,000	0	0	0	0
Other	4,500	5,700	0	1,000	0
Total One-time	\$40,500	\$5,700	\$0	\$11,500	\$0
B. Recurring					
Faculty	217,500	193,500	182,070	255,711	260,826
Staff	122,500	96,900	98,838	100,815	102,831
Benefits	101,100	94,900	99,000	132,900	135,600
Operating Expenses	21,000	15,000	18,000	21,000	21,000
Library	0	0	0	0	0
Other	0	0	3,047	3,138	3,232
Total Recurring	462,100	400,300	400,955	513,564	523,489
Total Expenditures (A + B)	502,600	406,000	400,955	525,064	523,489
2. Revenues					
State Aid-CBHE	0	0	0	0	0
State Aid-Other	0	0	0	0	0
Tuition/Fees	149,574	254,232	411,234	485,933	557,460
Institutional/Resources	353,025	151,768	0	39,131	0
Other					
Total Revenues	502,599	406,000	411,234	525,064	557,460

* Expenses incurred during a preparatory year, such as the appointment of a part-time interim director, have been incorporated into the budget for Year 1.

Explanations and Assumptions for Expenditures

One-Time Expenditures

1. Equipment. Research laboratory equipment will be necessary when the planned tenure-track faculty members are hired. These faculty members will be expected to conduct basic and/or applied research that addresses critical public health needs of Missouri.
2. Non-capital equipment. Desktop computers, computer servers, furniture, photocopiers, and similar non-capital equipment are basic infrastructure costs of the proposed program.
3. Other one-time infrastructure needs. Software, marketing materials, and miscellaneous items are necessary to implement the program.
4. Consultants. A program accreditation consultant from the Council on Education for Public Health (CEPH, the accreditation body in the U.S.) will be brought to UMC to assist the director and administrators prepare for program accreditation. An on-site consultation is strongly recommended by the CEPH.
5. Accreditation application fee will be incurred in year 1 of the program.

Recurring Expenditures

1. Faculty. A faculty member program director will be appointed during the preparatory year at .25 FTE. An Administrative Assistant will also be hired during the preparatory year at 1.0 FTE. (Expenses incurred during the preparatory year have been incorporated into “Year 1” of the budget). One tenure-track faculty member will be hired in the first year of the program. An additional tenure-track faculty member will be hired in year four of the program.
2. Summer Faculty. One temporary faculty member will be hired to teach during the summer semesters of the first two years of the program. The courses will be high enrollment, required courses.
3. Staff. An Administrative Associate, Administrative Assistant, and a Student Advisor will be hired in the first year of the program.
4. Benefits were calculated according to UMC’s current benefit schedule.
5. Faculty Member Equipment and Expense Allowance. Each full-time faculty member will be provided \$3000 annually to pay for teaching and research needs, such as books, professional dues (e.g., American Public Health Association), educational conference travel, and laboratory materials.
6. The CEPH accreditation annual renewal fees are included in years 3, 4 and 5 of the program. The listed fees were obtained from the CEPH.

Explanations and Assumptions for Revenues

1. Tuition and Educational Fees. Projected program enrollment is summarized in Form SE. The program will attract both traditional and nontraditional students who will complete the program through a variety of alternatives that best accommodate their needs (e.g., dual degrees, professional program). The tuition and fee revenue projections account for the various program completion.

2. Alternatives. Appendix B includes a detailed spreadsheet of the projected enrollment and credit hours. The projected enrollment counts both new students and students who may have been taking courses toward other degree programs. The projected credit hours, however, are all “new” credit hours. In year 1 of the program, for example, 646 new credit hours are projected. In year 5 of the program, 2098 new credit hours are projected.
3. Institutional Support. The University of Missouri-Columbia Chancellor’s Office has committed \$543,924 in non-recurring funds to support development and implementation of the MPH program. The program is expected to be financially self-sustaining by the end of Year 4 and afterward. Surpluses occurring at Year 5 or thereafter will be used to pay for unanticipated expenditures or revenue shortfalls. Otherwise, the surplus will be held by the program for future program enhancement. Future reserves will be managed in consultation with the Executive Committee and the Office of the Provost.

Space Needs

The interdisciplinary and complementary nature of the public health degree program extends beyond the curricular structure to the physical requirements as well. The classrooms and offices in the participating divisions are suitable and adequate for most of the public health program needs. Modest additional laboratory space and offices will be required for the Administrative “home” of the program and, subsequently, for the new faculty that are hired during the first five years of the program. Because the public health program is an Area Program, the home divisions of the new faculty members will be responsible for providing adequate office and laboratory space.

VII. Form PG: PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

A. Student Preparation

Admission. All applicants must meet the criteria for admission to the Graduate School of the University of Missouri – Columbia. Admission to the Master of Public Health program will require a minimum grade point average of 3.0 in the last 60 hours of baccalaureate coursework (for applicants with less than a master’s degree).

In addition, admission will require a combined GRE score of 1100 from the verbal and quantitative sections with a score of not less than 500. The GRE requirements may be waived by the admissions committee for students who have either completed or are concurrently enrolled in a health professional degree program (e.g., MD, RN, DVM).

International applicants and non-native English speaking applicants must obtain a Test of English as a Foreign Language (TOEFL) score of 550 for the paper-based version or a score of 215 for the computer-based version.

B. Faculty Characteristics

As noted above, the public health faculty will be multidisciplinary, with their own specific specialties, working under the public health “umbrella.” Faculty members will have excellent teaching skills and a record of research, publication and grantsmanship. The core faculty members will be “regular,” tenure-track faculty members who are responsible for teaching, research, and service activities. All of these faculty members will have completed either a doctorate degree (PhD, DrPH) or a professional degree in a health related field (MD, DVM, etc). The faculty will be augmented as necessary by non-regular members who have demonstrated teaching skills and/or have valuable private or public sector experience. All of the public health courses will be taught by public health faculty members. Graduate teaching assistants may be involved in assisting faculty members who have courses with larger enrollments.

C. Enrollment Projections

By year 5 of the program, approximately 98 full-time and 38 part-time students will be enrolled in the public health program. The large number of part-time students reflects the fact that the program will be attractive to current students who will seek dual degrees and to professionals who are already employed in the community. The MPH is an attractive degree to these individuals because it complements their skill sets and, often, enhances their marketability and potential for increased salary.

D. Student Programs and Outcomes

1. Number of graduates per annum after three years: Approximately 58

Number of graduates per annum after five years: Approximately 101

2. Skills specific to the program: MPH students will be trained in the theoretical and practical aspects of preventing illness and promoting the health of communities. Students will graduate with specific skills in Public Health Policy and Administration, Veterinary Public Health, or Health Promotion and Disease Prevention.

3. Proportion of graduates who will achieve licensing, certification, or registration: Graduates in the MPH/ MSN dual program will be prepared to seek Certification as Community Health Nurse Specialists from the American Nurse Credentialing Center. No other licensing or certification is applicable.

4. Performance on national and/or local assessments: Not applicable.

5. Placement rates: The program anticipates a placement rate greater than 90% because of the quality of training and because of the workforce shortage of public health professionals.

6. Transfer rates, continuous study: The program anticipates low transfer rates, and budgeting was performed under the assumption of minimal transfer rates. The planned program options

allow students to efficiently obtain desired dual degrees (e.g., MPH/DVM), thereby minimizing students transferring into the public health program from another division. In addition, new courses, such as those in epidemiology, biostatistics, health promotion, and disease prevention will enhance students' abilities to provide services in their respective health care fields. For example, students who obtain the dual degree in social work and public health will be able to consider and address health problems from a population-based perspective, in addition to from the perspective of the individual.

7. Student Performance Goals, broken down by concentration:

Public Health Policy and Administration

Graduates of the Public Health Policy and Administration concentration will be employed in institutional or government service, non-governmental organizations, and even in the private sector. They will provide leadership in health service program development, policy, implementation, and evaluation. Many will be involved in community programs addressing social and health problems, including communicable diseases, healthy lifestyle promotion, chronic disease management, and issues related to the aging population. As above, many of these graduates will perform community-based research and write grants and contracts to fund specific projects.

The MPH in Public Health Policy and Administration complements the existing MHA degree in Health Services Management from the Department of Health Management and Informatics. Students interested in management will be encouraged to explore the MHA program, or the MPH/MHA dual degree.

Veterinary public health Concentration

Some graduates will gain employment in institutional or government service. The majority of graduates will be employed in a manner similar to Dams without advanced degrees, but provide added value in terms of personal and client income and satisfaction.

Health Promotion and Disease Prevention

Graduates of the Health Promotion and Disease Prevention concentration may be employed in local, state, and national official public health agencies in a number of areas including community and aggregate needs assessment, program planning and evaluation for at risk populations, program implementation in areas related to infectious and communicable disease prevention, chronic disease, and other social and health issues that are ubiquitous in our communities. Many will utilize the skills that they gain this program to perform community-based research and to write grants and contracts to fund specific projects. Students will also be prepared and eligible to work with State, National, and International Non-Governmental Organizations (NGOs).

E. Program Accreditation

The Master of Public Health Program will be eligible for accreditation by the Council on Education for Public Health. As soon as the program has been implemented, UMC will apply

for pre-accreditation or accreditation, depending on the success of the initial implementation. The accrediting process typically takes 18-24 months.

F. Alumni and Employer Survey

As part of an ongoing self-study and quality improvement process, the Public Health Program will conduct annual anonymous, web-based surveys of alumni and employers. The purpose of these surveys is to track graduates' preparedness to enter the workforce and to assess strengths and weaknesses in the content and format of the curricula. In addition, qualitative information will be obtained from alumni and employer focus groups and key informant interviews. These focus groups and interviews will help provide a context for the quantitative information and to identify trends in employer and marketplace needs. Graduating students will also be given the opportunity to participate in separate focus groups and web-based surveys about the program curricula, research, and administration. All of this information will be shared with the Public Health Program's Board of Directors and the Advisory Board. The surveys and interviews will be used to improve the performance of the program and its graduates, enhance the program's ability to stay at the cutting-edge of public health needs and opportunities, and meet the program's goals.

G. Public Health Program Advisory Board

A ten-person Advisory Board of public health and community leaders will be formed to provide guidance to the program Director, the Board of Directors, and the UMC administration. The Advisory Board will be charged with reviewing the performance of the program in education, research, and service. Board members will represent a diverse group of stakeholders from both the public and private sectors.

VIII. Form CC: CBHE CLARIFYING COMMENTS

A. Alignment with Institutional Mission





A concentrated focus on public health would fit well with UMC's overall mission to improve the quality of life of Missourians and the world's citizens through teaching, discovery, and service. The development of a collaborative public health program would benefit UMC by allowing for additional extramural funding opportunities and it would attract talented faculty and students. The MPH programs fits well with the mission of a land grant university. Through education and research, the program will protect and enhance the health of the public. The program will help Missouri meet its public health workforce needs while providing education in area of high demand for traditional and non-traditional students. It is anticipated that the vast majority of program graduates will live and work in the state, thereby extending the positive benefits of the program throughout the state.

B. Student Demand Data

Web-Based Interest Survey of Current UMC Students


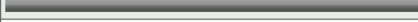
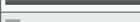

Estimates of enrollment were derived from a web-based survey administered to current students enrolled at UMC. An e-mail request to take the web-based survey was sent to students in the College of Agriculture, Food and Natural Resources, College of Arts & Sciences, College of Business, College of Human Environmental Sciences, College of Veterinary Medicine, School of Health Professions, School of Social Work, School of Journalism, School of Nursing, School of Law, School of Medicine, and the Truman School of Public Affairs. It should be noted that no prior advertising had been performed prior to administration of the survey. Consequently, participation and expressed demand underestimate potential interest in the program. A total of 844 UMC students responded to the survey. The majority of respondents (57.2%) were graduate or professional students.

Likelihood of Enrollment. Nearly ten percent (9.7%) of the students indicated they would be *very likely* to enroll in an MPH program if it were offered, while 25.2% of this group indicated they were *likely*, for a total of 278 “likely and very likely” students. The number of students who would actually enroll in an MPH is likely to be lower. If only those who said that they were very likely to enroll actually did so, 77 traditional students would matriculate in the first year of the program.

3. How likely are you to enroll in an MPH program if it is offered?			
		Response Percent	Response Total
Very likely		9.7%	77
Likely		25.2%	201
Unlikely		36%	287
Not likely at all		29.1%	232
Total Respondents			797
(skipped this question)			47

Potential Professional MPH students

An e-mail request to take the web-based survey was also sent to employees of the Missouri Department of Health and Senior Services, Audrain Medical Center in Mexico, Cooper County Memorial Hospital in Boonville, Fulton State Hospital, UMC Health Care and Truman Memorial Veterans’ Hospital. A total of 208 individuals responded to the survey. Almost half of the respondents were employees of local/state health departments, 24% worked in public health departments, and 21.1% worked in hospitals.

13. If the University of Missouri–Columbia began offering a master of public health degree, how likely would you be to enroll in the next two years?			
		Response Percent	Response Total
Very likely		24.1%	47
Likely		54.9%	107
Unlikely		19%	37
Not likely at all		2.1%	4
Total Respondents			195
(skipped this question)			13

Likelihood of Enrollment Forty-seven respondents (24.1%) indicated they would be *very likely* to enroll in an MPH program in the next two years if it were offered, while 107 respondents (54.9%) indicated they were *likely*.

These survey instruments were highly focused and did not capture the entire potential pool of students. The market for potential enrollees is likely to be substantially larger. Additionally, the results of these surveys suggest the enrollment projections provided in the preceding tables are relatively conservative. The lower estimates provided are an attempt to account for the expected attrition between expressed interest and actual enrollment. The survey for traditional students was completed by a sample of 844 UMC students. Although this is a large sample, it is not the entire population of students who may be interested in this program. The estimated number of potentially interested students is conservative given that not all students could be sampled and there has been no marketing of the program.

The complete survey results are included in Appendix C.

C. Market Demand for Public Health

Nationally, the focus of health care is shifting to health maintenance and preventive approaches, which have excellent biological and economic efficiency. Unfortunately, Missouri's public health education infrastructure is inadequate to address the needs of the state. Missouri's public health workforce does not, by and large, have graduate training in public health.

In its third report on health professions education for the 21st century, The Pew Health Professions Commission called for developing a cadre of health professionals that focus less on the care of individuals and more on care for the health of the community. The Commission highlights the necessity of the health care practitioner to “possess a broad understanding of all of the determinants of health, such as the environment, socioeconomic conditions, behavioral health care, and human genetics to be able to effectively fulfill their roles as professionals”. The competencies necessary for health care practitioners and the competencies necessary for good public health practice not only overlap but, in most cases, are synonymous.

An understanding of public health is critical for responding to the rapidly changing health care system. Health system policy developers, regulators, and administrators trained in public health will be best positioned to tackle the health care challenges of the 21st century. Public health education and extension programming delivered by UMC would be a tremendous service to the state. County and state public health department workers, nurses, physicians, veterinarians, health administrators, and other health professionals who serve public health, require continuing education to maintain professional licenses and to upgrade their working knowledge.

As described on page 1f, Missouri and the nation are facing a public health workforce crisis. The MPH program will help Missouri meet its workforce needs and address its many public health challenges.

D. Societal Need

Missouri faces many serious public health challenges, such as increasing rates of obesity and infant mortality, potential for emerging infectious diseases, and higher than average rates of heart disease and certain cancers. Initiatives to increase public health education, service, and research are critical to reversing these negative health trends.

The formal actions of the Federal government, in concert with state governments, will provide a basic infrastructure for disease prevention and control. This basic infrastructure will be substantially enhanced by having a larger public health workforce in the State. For example, nurses and county public health employees who have formal training in public health principles and methods are more likely to identify individual cases of public health diseases and take appropriate steps to control their spread. Missouri's infrastructure to prevent/control bioterrorist threats, avian flu, and similar hazards will be dramatically improved by having an educated health care workforce.

The University of Missouri - Columbia is ideally positioned to develop a public health program. Existing programs do not adequately meet Missouri's teaching, research, and public health service needs. The implementation of an accredited MPH program is an excellent fit for the mission of the university.

UMC will provide comprehensive teaching, research, and extension to the science and delivery of public health. Although the MPH program would serve both rural and urban populations, the focus should be on rural Missouri. UMC has expertise in health and health care of rural populations and the MPH program would build on the tradition of outreach and service to rural Missouri. Extension and continuing education programs coordinated by state and local specialists would link the public health expertise at UMC to communities throughout Missouri.

Graduates of the MPH program would be recruited by insurance, agricultural, veterinary, and health industries in Missouri. In fact, MPH graduates would fill leadership positions in public and private sectors, and would apply their skills to improving the public health and economic well-being of Missouri and the nation.

E. Efficient Use of Resources

The vast majority of courses listed in these plans of study are existing courses routinely taught at UMC. The classrooms and offices in the participating divisions are suitable and adequate for most of the public health program needs. Modest additional laboratory space and offices will be required for the Administrative "home" of the program and, subsequently, for the new faculty that are hired during the first five years of the program.

Because of the interdisciplinary nature of the proposed MPH, the University of Missouri - Columbia can implement the program in an efficient manner. Strong existing programs in Medicine, Health Professions, Nursing, Nutrition, Social Work, Agriculture, Statistics, Law, Business, Journalism, and Extension will provide the foundation of an academically rigorous and unique public health educational program. The MPH is not expected to compromise the quality

of existing programs, but rather will augment the educational, service, and research efforts of the numerous participating divisions of the University of Missouri – Columbia. The proposed program will provide a formal venue for collaboration that did not exist previously, and will improve the efficiency of education by sharing educational resources and reducing course duplication. Finally, the public health program will allow UMC faculty members to compete for public health training and research grants from the Health Services & Resources Administration and the Centers for Disease Control and Prevention, and the National Institutes of Health. Many existing grants in these agencies are only available to universities that have public health programs or schools.

Information about the existing institutional resources that support this mission is provided in Appendix F.

F. Benefits of Collaboration

Within the University of Missouri- Columbia, the public health degree provides an outstanding opportunity for interdisciplinary education and research. Faculty members from ten primary departments/divisions collaborate regularly in teaching and scientific investigation; this model of interdisciplinary collaboration will be applied in working with other departments/divisions on the UMC campus, strengthening existing relationships.

The interdisciplinary collaboration that will follow the establishment of the MPH degree program will accomplish the following:

- Broaden the course offerings for students interested in public health, especially for those in health professions, health management, nursing, veterinary medicine, social work, and medicine. Students in other areas will also benefit, including, but not limited to those in business, public affairs, law, economics, agriculture, and statistics;
- Provide an opportunity for students to complete dual degree programs in an efficient manner. The anticipated degrees that will be complemented with a master in public health (MPH) include:
 - Doctor of Medicine (MD)
 - Master of Nursing (MSN)
 - Master of Social Work (MSW)
 - Doctor of Veterinary Medicine (DVM)
 - Master of Business Administration (MBA)
 - Master in Health Administration (MHA)
 - Doctor of Physical Therapy (DPT)
 - Master of Occupational Therapy (MOT)
 - Master of Public Affairs (MPA)
 - Doctor of Philosophy (PHD), especially in economics, psychology, sociology
- Facilitate the numerous, ongoing, productive collaborative relationships across the divisions at UMC. The public health program fits well with many instructional and research programs that already exist at UMC and are addressing public health challenges; and

- Greatly expand collaboration for instruction and research with local and regional public health departments.

Outside of the UMC campus, beneficial collaborations have been developed with both public and private institutions that can be enhanced by the public health program. For example, the School of Health Professions has been successful in partnering with, and obtaining instructional sponsorship from, Boyce and Bynum Pathology Laboratories. A currently active grant with the Center for Bioterrorism at Washington University has permitted an UMC faculty member and approximately 20 veterinary students to visit the Centers for Disease Control in Atlanta, Georgia and begin the process of building long-term relationships with this important public health resource. With increased research and training necessary in the areas of bioterrorism, avian influenzae and similar viral diseases, and food-borne illnesses, partnerships with private and public laboratories is essential to improving Missouri's preparedness of public health threats. These existing relationships will also enhance the public health program by broadening research and field opportunities for the students.

Additional ongoing collaborations which support the development of a public health educational and instructional program include growing relationships with several state governmental units. Included are collaborations between the University of Missouri, Veterinary Medical Diagnostic Laboratory (diagnostic services related to diagnostic confirmation of anthrax and West Nile Virus encephalitis) and active research collaborations supported by the United States Department of Agriculture with the Missouri Department of Agriculture Division of Animal Health. These collaborations will permit the University to fully capitalize on growing infrastructure and expertise related to planned biocontainment facilities for the study of zoonotic pathogens.

In addition, the public health program anticipates strong collaborative relationships with the Columbia/Boone County Department of Public Health, the Missouri Public Health Association, and the Missouri Department of Health and Senior Services. The proximity to the state capital in Jefferson City, MO and the main office of the Missouri Department of Health and Senior Services holds great promise to build long-term collaborations in which the University serves as the source of continuing education for the state's public health structure.

Appendix A includes letters of collaboration and support.

G. Duplication of Programs

Currently in Missouri, Saint Louis University is the sole institution offering an accredited MPH program. The proposed UMC MPH program has been designed to have different areas of focus than the program at Saint Louis University. The UMC campus provides unique existing strength not only in the human health fields of medicine, nursing, health management, and social work, but also in the complementary fields of veterinary medicine, food science, and agriculture. Consequently, the UMC campus is better suited to address rural health, service of disadvantaged rural population, and zoonotic disease prevention including bio and agroterrorism. Current programs in public health affiliated with Missouri State University and the Kirksville College of Osteopathic Medicine are not accredited and lack the potential for broad-based collaboration with the multiple allied health fields present on the UMC campus. The proposed program will

be charged, however, with building mutually beneficial collaborations with these institutions in the future.

IX. Form CP: CRITERIA BY THE PRESIDENT

1. Implementation of the New Program

Implementation of the MPH program will not negatively affect existing programs. Representatives from the ten colleges/schools at UMC involved in the design of the program proposal maintained a common goal of enhancing existing programs. The positive effects of implementation of the new program are detailed on pages 1y to 1z. In summary, the proposal will benefit existing programs by:

- Providing a formal venue for interdisciplinary educational and research collaboration;
- Allowing academic units to offer dual degrees;
- Enhancing academic units ability to broaden course offerings in public health to meet student demand;

- Expanding collaboration for instruction and research with local and regional public health departments and with other universities in Missouri.

2. Market Analysis

The Committee determined that there is demonstrable need and demand for increased public health education in Missouri. Missouri faces many public health challenges such as increasing rates of obesity and infant mortality, climbing health care spending, and higher than average rates of heart disease and certain cancers. Initiatives to increase public health education and services are critical to reversing these negative health trends.

The Association of State and Territorial Health Officials (ASTHO) has documented an impending crisis related to public health worker shortages, particularly with public health nurses, epidemiologists, laboratory workers, environmental specialists, and public health administrator/managers. Public health retirement rates as high as 45 percent, a rapidly aging workforce whose average age is 46.6 years, combined with increasing public health concerns, such as bioterrorism, are expected to worsen the public health worker shortage.

With the proposed MPH, MU has an opportunity to prepare public health professions to address increasing public health concerns. Graduates of the MPH are expected to be in high demand and obtain competitive salaries.

Data collected from a web-based survey administered to current UMC students indicated significant interest in a Master of Public Health degree program, with 25.2% of respondents indicating they would be “likely” to enroll in an MPH program if it were offered, and 9.7% of respondents indicating they would be “very likely” to enroll. Data collected from professionals currently employed in local hospitals and health departments was even more positive. Of these professionals, 54.9% indicated they would be “likely” to enroll in an MPH program if it were offered, and 24.1% of respondents indicated they would be “very likely” to enroll.

Furthermore, informal discussions of the proposed MPH have indicated strong interest among students. Several committee members have been contacted by students inquiring about public health courses, with some Columbia residents reporting that they currently driving to St. Louis for public health, when they would prefer to get an MPH from University of Missouri-Columbia. Once formal advertising occurs, it is anticipated that interest in the program will be even greater.

Additional discussion about the market analyses can be found on page 1bb.

3. Business Plan

A. Financial Projection

The majority of resources to complete development and implementation of the MPH program already exist at UMC. The collaborating academic units offer nearly all of the needed courses and existing faculty members have training, experience, and skills in public health teaching, research, and service. Because these essential elements exist already, expenses to implement the MPH program and position it for growth are moderate. The proposed program has been developed with the full support of the collaborating academic units: Schools of Medicine, Nursing, Health Professions, and Social Work, and the College of Veterinary of Medicine. Support has also been obtained from the College of Business, the College of Agriculture, Food, and Natural Resources, and the Departments of Statistics and Health Management and Informatics. Support will include developing and offering needed courses, promoting dual degree programs, contributing faculty member time, and participating in program implementation and policy making.

Chancellor Brady Deaton has committed \$543,924 to facilitate program implementation over its first five years. These resources will be used to hire a program director, support staff, and two faculty members, obtain equipment (e.g., computers), and apply for accreditation.

New Faculty

The new faculty members will be recruited to develop and teach the needed courses that are not already in existence, including “Principles of Public Health,” “Social and Behavioral Sciences in Public Health,” “Environmental Health,” “Public Health Financial Management,” and an advanced epidemiology course. The new faculty members will also be responsible for establishing programs of research that are complementary to the current public health research programs. Therefore, they will be hired in tenure-track positions and expected to advance UMC’s scholarly activities in public health. More specifically, faculty members that have the experience and skills to develop lines of research that integrate human and veterinary public health and that address the immediate public health needs of Missouri will be recruited.

At the end of five years, the program is expected to be financially self-sustaining.

Expenses

One-time expenditures, such as computers, photocopier, furniture, consultants, and the CEPH accreditation application fee are expected to total \$57,700. Recurring expenditures are projected at \$2,300,408 over five years, and include salary/wages and benefits for new MPH faculty and staff, E&E, and CEPH accreditation fees. Total expenses over five years, $\$57,700 + \$2,300,408 = \$2,358,108$.

Revenue

Tuition revenue is projected at \$1,858,433 over five years. The MPH program is expected to be financially self-sustaining in Year 5, with 136 students enrolled at that time. The difference between expenses and revenues in the first five years equals \$499,675. Chancellor Deaton has committed funds (\$543,924, in the form of Institutional Resources) to support the program through its first five years, after which it is expected to be self-sufficient. Please see “Form FP: Financial Projections” for additional details.

Budget Strategy

The MPH program’s primary mission is to provide high quality education to help Missouri meet its public health workforce needs. Therefore, the program budget is built around teaching revenues and expenses. The recurring expenditures will be incurred as justified by student enrollment and associated revenues. The program can be self-sustaining if enrollment only reaches 78 students. In such a situation, the planned hiring of the third faculty member will be postponed until greater enrollment is sustained. The program’s components may also be scaled back if necessary to achieve fiscal solvency.

Additional revenues are also likely through online course offerings, grants, and contracts, but income from these sources has not been entered into the budget because they are not secured. Online courses are planned for development within the first five years. Additional financial support from grants and contracts is likely. Many participating faculty members have successful research and/or service programs in the area of public health. The MPH program expands access to state and federal grants and affords increased collaboration. Any revenue generated from online courses, grants, or contracts will be re-invested in the MPH program.

B. Student Recruitment and Retention

Target recruitment audiences for the MPH will include current undergraduate students, professionals currently employed in local hospitals and health departments, and employees of the Department of Health. The overarching recruitment goal is to obtain a highly qualified student body that is diverse across traditional/non-traditional student categories, discipline area, age, gender, race, and ethnicity. Students are often unaware of the field of public health or the opportunities afforded by an MPH degree. Recruitment methods will serve to educate the students about the field, but also strive to make them feel welcome to pursue the degree an interdisciplinary degree. As demonstrated above, there is strong demand for the MPH among both traditional and non-traditional students. The demand for the program is expected to

increase after the recruitment plan is implemented because student awareness of the program will increase dramatically.

The recruitment plan will be comprehensive and use multiple proven methods to reach both traditional and non-traditional students. The recruitment methods for high school and traditional undergraduate students will include:

- Presentations/attendance at college fairs throughout Missouri;
- Email correspondence;
- Direct mail involving invitations and brochures of the program;
- Degree-specific website that includes web-based services; and
- Paragraphs about, and links to, the MPH program on collaborating academic units websites;

The published materials about the MPH (including websites) will highlight the unique combination of resources that contribute to the MPH, the multiple avenues to degree completion, and the dual degree options available to students. This approach will enhance students' comfort when considering a graduate program that is not housed solely in their home academic unit (e.g., nursing, social work, arts and science).

To facilitate recruitment of traditional students, the MPH Director and faculty members will meet with the undergraduate deans, faculty members, and advisors of the collaborating academic units at UMC. The Director will overview the program administration, admission requirements, dual degree options, etc. The meetings will serve to facilitate communication among the collaborating units and help the advisors to provide guidance to interested students. Similar meetings will be offered to academic units at the other UM campuses.

To facilitate recruitment of non-traditional students, the MPH Director and faculty members will meet with the directors of local public health agencies, the appropriate units of the Missouri Departments of Health and Senior Services, the Missouri Department of Mental Health, the Missouri Department of Agriculture (for Veterinary Public Health), and related agencies. As above, these meetings will overview the program administration and related material, but also focus on the available means that employees may pursue the MPH degree.

Student retention is major goal of the MPH program. The Public Health program will hire a full-time advisor to augment advising that faculty members will provide. The Advisor will be responsible for all new student inquiries and new student advising, including initial course enrollment. This is a feasible plan because the core courses of the Health Promotion and Disease Prevention and the Health Policy and Administration concentrations are nearly identical. There will be some variability in planned programs of study to allow for dual-degree students, etc. Nevertheless, a full-time advisor will be able to effectively manage these program options. The Veterinary Public Health curriculum is somewhat unique to the other two concentrations because it will require the development of a lockstep curriculum to permit completion of both the public health and professional degree components. Therefore, the Public Health Advisor, the Veterinary Medicine Advisor and the CVM Associate Dean for Academic Affairs will work together to create a planned course of study for all Veterinary Public Health dual degree students.

During their first semesters, students will be assigned to a faculty member advisor in their selected concentration. The faculty advisors will guide students through course selection, monitor their progress toward completing graduation requirements, and provide information and advice on post-graduation employment. Students will also be advised and encouraged to utilize the many academic and career support services offered by UMC. The resources available at UMC and individual, faculty member advising will help attract and retain students.

C. Action Plan for Program Delivery

Program Structure. The MPH will be offered as an Area Program, recognizing that the program is multidisciplinary and will entail participation from a broad range of colleges and departments across the UMC campus. This approach will ensure shared ownership and broad support. A Program Director and Executive Committee will be responsible for the program management and administration. Each concentration will have a faculty Administrator, who reports to the Program Director. The Program Director and the Concentration Administrators will compose the Executive Committee, who will oversee day-to-day program management.

The Program Directors' home academic unit will be responsible for providing support for the program infrastructure, such as budget management, human resource services for program staff, and office space for the Director and staff. The Program Director will report to a Board of Directors, who will be charged with program policy. The Board of Directors will be composed of the Deans of the Schools of Medicine, Health Professions, Nursing, and the Colleges of Veterinary Medicine and Human Environmental Sciences. The Director, with support from his/her home academic unit, will provide the Board of Directors with budget and academic reports on a regular basis (at least semi-annually). The Board will have authority of over major academic, budget, and administrative functions.

Provost Brian Foster has asked Kristofer Hagglund, PhD, to serve as Interim Director of the program, pending approval of the program by the UM Board of Curators and the Coordinating Board of Higher Education. Dr. Hagglund is professor of Health Psychology and Associate Dean of Academic Affairs and Health Policy in the School of Health Professions. He is also the Co-Director of the Center for Health Policy. Dr. Hagglund will be responsible for coordinating the personnel and resources to successfully implement the program when it is given final approval. He will serve as interim director until the Director position is filled.

The search for a permanent director would be national in scope. The Deans serving on the MPH program Board of Directors would appoint a representative from their respective academic units to serve on the selection committee. In addition, the selection committee would include a representative from the Graduate School, a student member, a community member, and two external members. The chair would be chosen by the Graduate School in consultation with the Board of Directors. As an interdisciplinary graduate program, the Director would report to the Vice Provost for Advanced Studies but would also continue to work closely with the Board of Directors.

The program is expected to obtain accreditation by the Council on Education for Public Health as soon as it becomes eligible.

As described above, the public health program will require 45 graduate credit hours and can be completed by traditional students in two years. Three concentrations will be offered: Public Health Policy and Administration, Veterinary Public Health, and Health Promotion and Disease Prevention. Dual degree programs will also allow students to complete complementary degrees efficiently. In addition, practicing professionals and other non-traditional students will be able to obtain the MPH degree through a Professional Program that will be designed to meet the needs of these students. Each student will complete all courses in a chosen concentration. This curricular model is typical of accredited MPH programs.

The program will be taught by faculty members drawn from several divisions within the university. This format will allow the program to involve expert faculty members from a variety of public health disciplines. In addition, students will benefit from collaborative partnerships with both the public and private sector.

D. Graduate Employment

The market demand data and the letters of support from state officials suggest that MPH graduates will be highly successful in securing employment in Missouri. To facilitate successful employment matches between the public health graduates and potential public and private employers, the Program Director and Executive Committee members will meet with employers on a regular basis. The discussions will focus on whether the program is meeting their current workforce needs and to discuss future needs. These meetings will ensure that the program is updated on a regular basis and addresses the most pressing public health needs in the state. They will also serve to market the program and its graduates to current and potential employers.

UMC also has several career placement services and students will be referred to these resources, if/when needed.

E. Evaluation

The effectiveness of the MPH will be measured against several criteria, including:

- The annual number of graduates as a percentage of matriculating students. It is expected that 90% of matriculating students will complete the program within one year of expected graduation;
- Peer review of coursework and the overall program;
- Placement rate of graduates. It is expected that greater than 90% of graduates will find work within the field within three months of graduation;
- Alumni surveys will be used as a qualitative measure of graduates' satisfaction with the program;
- Surveys and focus groups involving personnel from field experience sites will provide a qualitative measure of student preparation for "real-life" skills;
- The program administrators will be accountable to a diverse Advisory Board.

Additional discussion of program monitoring and evaluation is included under the sections labeled “Program Accreditation,” “Employer and Alumni Survey,” “Public Health Program Advisory Board” on page 1u.

References

1. Association of State and Territorial Health Officials. (2004). State public health employee worker shortage report: A civil service recruitment and retention crisis. Washington, D.C.: Author.
2. Hoblet et al. www.avma.org/onlnews/jarvma/nov03/031115h.asp, J Vet Med Ed 2003; 30:287-294).
3. Institute of Medicine (1988). The Future of Public Health. Washington, DC: National Academy Press.
4. Last, J.M. (1995). A dictionary of epidemiology (3rd. ed.). New York: Oxford University Press.
5. Missouri Department of Health and Senior Services. (2003, August). Infant mortality increases in Missouri in 2002. <http://www.dhss.state.mo.us/>.
6. Missouri Department of Health and Senior Services. (2004). Strategic Plan 2000-2005: Health Missourians Living in an Environment that is Safe, Supportive and Conducive to a Healthy Lifestyle. Jefferson City: Author.
7. Osburn, B. (2005). http://www.aavmc.org/meetings_events/documents/Dr.Osburnpresentation.pdf
8. Simoes, E.J, Holt, B, & Miller, N. (2000). Chronic Disease Report. Jefferson City, MO: Missouri Department of Health, Division of Chronic Disease Prevention and Health Promotion.
9. Thorpe, K.E. (2003). Health Care Expenditures and Insurance in Missouri. (Show-Me Series: report 2). Jefferson City, MO: Missouri Foundation for Health
10. Turnock, B.J. (2004). Public health: What is it and how it works (3rd Ed.). Boston: Jones & Bartlett.
11. US Department of Labor, Bureau of Labor Statistics (2004). http://stats.bls.gov/oes/current/oes_nat.htm

Appendix A: LETTERS OF SUPPORT

MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES

March 30, 2006

Kristofer J. Hagglund, PhD, ABPP
Associate Dean and Professor
Chair, Public Health Committee
School of Health Professions
University of Missouri-Columbia
507 Lewis Hall
Columbia, Missouri 65211

Dear Dr. Hagglund:

On behalf of the Department of Health and Senior Services, I am pleased to write this letter of support for a Master of Public Health degree program at the University of Missouri-Columbia. There are many avenues for collaboration and support between our two state institutions and my colleagues and I look forward to working with your faculty and students in the future.

The Department of Health and Senior Services is charged with monitoring and improving the health of Missouri's citizens. Our mission is to be the leader in promoting, protecting and partnering for health. We want to increase Missourian's awareness of, commitment to and investment in health and shift the focus toward prevention and wellness. An educated workforce is critical to accomplishing this mission.

A major part of this mission is to oversee the public health and senior services programs in the state, including environmental health compliance, communicable disease testing, chronic disease screening, community health planning and services, core public health infrastructure, regulation and licensure of health facilities, services to seniors and the disabled, and emergency response/disaster preparedness.

We rely on institutions such as the University of Missouri to provide us with expertise and consultation, specialized services, and program development and evaluation. This collaboration already exists through many existing programs with the University of Missouri Health Care system, MU Sinclair School of Nursing, School of Health Professions and others.

There is a tremendous need for graduates of public health programs in the State of Missouri. We are already experiencing difficulty recruiting employees with public health degrees and the Association of State and Territorial Health Officials predicts that the current workforce crisis in public health will only worsen.

I would like to encourage you to provide a program of study for employees of the Department of Health and Senior Services and other state departments. There is a substantial demand among our employees for an MPH degree program because there are few current avenues to obtain such a degree. The MPA program offered by the Truman School of Public Affairs would be a good model for our employees. I believe the program would find a large number of DHSS employees enrolling to augment their education and enhance their career paths.

In addition, the Department of Health and Senior Services will be a resource for practical experiences for the public health program students. There are dozens of settings in which students could integrate their new knowledge in a real world setting, experience the challenges and successes of public health programs, and gain valuable new knowledge. These settings would be ideal for capstone-type projects.

The Department looks forward to the enhanced working relationship that is certain to result from the development of the MU Master's of Public Health program.

Sincerely,

Julia M. Eckstein
Director

DEPARTMENT of AGRICULTURE---STATE OF MISSOURI

March 27, 2006

Kristofer J Hagglund, PhD, ABPP
Associate Dean and Professor
Chair, Public Health Committee
UMC School of Health Professions

Dear Dr. Hagglund,

It is with great enthusiasm that I write this letter in support of the proposed Master's Program of Public Health at the University of Missouri. The Missouri Department of Agriculture, Division of Animal Health, has a wealth of resources that will substantively contribute to a student's education and experience in the arena of veterinary public health.

Our department serves the entire state of Missouri by managing and participating in programs which limit the consequences of livestock disease. We work closely with the Missouri Department of Health and Senior Services in control of zoonotic diseases and food safety issues. We welcome the MPH program as another strong partner in the safeguarding of our state.

Having an MPH program would expand the opportunities for our department to partner with MU in:

- provision of opportunities for state employees to secure relevant continuing education and lifelong learning;
- offering students practical experience in planning and implementing community-based public health programs;
- creating a critical partnership in securing grants;
- strengthening links between the Department of Agriculture and the University of Missouri.

The Department of Agriculture looks forward to the enhanced working relationship that is certain to result from the development of the MU Master's of Public Health program in Columbia.

Sincerely,

Shane Brookshire, DVM
State Veterinarian – Director
Division of Animal Health

MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES

Kristofer J. Hagglund, PhD, ABPP
Associate Dean and Professor
Chair, Public Health Committee
School of Health Professions
University of Missouri-Columbia
507 Lewis Hall
Columbia, Missouri 65211

Dear Dr. Hagglund:

On behalf of the State Board of Health, I am pleased to write this letter of support for a Master of Public Health degree program at the University of Missouri-Columbia. There are many avenues for collaboration and support between the University and Department of Health and Senior Services. My colleagues and I are happy to support this program and are willing to work with you and the Department to make it successful.

The Department of Health and Senior Services is charged with monitoring and improving the health of Missouri's citizens. Its mission is to be the leader in promoting, protecting and partnering for health. The Department wants to increase Missourian's awareness of, commitment to and investment in health and shift the focus toward prevention and wellness. An educated workforce is critical to accomplishing this mission.

A major part of this mission is to oversee the public health and senior services programs in the state, including environmental health compliance, communicable disease testing, chronic disease screening, community health planning and services, core public health infrastructure, regulation and licensure of health facilities, services to seniors and the disabled, and emergency response/disaster preparedness.

The Department relies on institutions such as the University of Missouri to provide it with expertise and consultation, specialized services, and program development and evaluation. It is my understanding that this collaboration already exists through many existing programs with the University of Missouri Health Care system, MU Sinclair School of Nursing, School of Health Professions and others.

There is a tremendous need for graduates of public health programs in the State of Missouri. The Department already experiences difficulty in recruiting employees with public health degrees and I am told that the Association of State and Territorial Health Officials predict that the current workforce crisis in public health will only worsen.

I would encourage you to provide a program of study for employees of the Department of Health and Senior Services and other state departments.

There appears to be few current avenues to obtain such a degree and there is a substantial demand among Department employees for an MPH degree program. It is my belief that the program would find a large number of DHSS employees enrolling to augment their education and enhance their career paths.

In addition, the Department of Health and Senior Services could be a resource for practical experiences for the public health program students. There are dozens of settings in which students could integrate their new knowledge in a real world setting, experience the challenges and successes of public health programs, and gain valuable new knowledge. These settings would be ideal for capstone-type projects.

Please let me know if the Board can provide additional support to this project. The Department of Health and Senior Services can only gain from the enhanced working relationship that is certain to result from the development of the MU Master's of Public Health program.

Sincerely,

Donna Mannello, D.C.
Chair, State Board of Health

c: Julie Eckstein

**CITY OF COLUMBIA/BOONE COUNTY, MISSOURI HEALTH DEPARTMENT
DIVISION OF ADMINISTRATION**

Kristofer J Hagglund, PhD, ABPP
Associate Dean and Professor
Co-Director, Center for Health Policy
School of Health Professions
University of Missouri-Columbia
Columbia MO 65211

March 3, 2006

Dear Dr. Hagglund,

It is with great enthusiasm that I write this letter in support of the proposed Master's Program of Public Health. Our Community has a wealth of resources, including a full service local health department that can contribute to a student's experiences in the public health sector.

The Columbia/Boone County Health Department (CBCHD) serves a population of approximately 135,000 with programs ranging from Women's, Infants & Children (WIC), environmental health compliance, and communicable disease testing, to chronic disease screening, community health planning and services, and disaster preparedness.

An MPH program in this community expands the opportunities for CBCHD to partner with MU in:

- offering students practical experience in planning and implementing community based public health programs;
- creating a critical partnership in securing grants;
- strengthening links between the City of Columbia and the University of Missouri.

Columbia/Boone County Health Department looks forward to the enhanced working relationship that is certain to result from the development of the MU Master's of Public Health program in Columbia.

Sincerely,

Stephanie K. Browning
Director

MOALPHA
MISSOURI ASSOCIATION OF LOCAL PUBLIC HEALTH AGENCIES

Kristofer J Hagglund, PhD, ABPP
Associate Dean and Professor
Chair, Public Health Committee
School of Health Professions
507 Lewis Hall
University of Missouri-Columbia
Columbia MO 65211

March 27, 2006

Dear Dr. Hagglund:

The Missouri Association of Local Public Health Agencies enthusiastically supports the proposal for a Master's Program of Public Health at UMC. Our membership includes 105 city and county health departments, including several within easy driving distance of Columbia that can contribute to students' learning experiences.

Our members serve 95% of the population of Missouri. They offer a wide range of services, including communicable disease surveillance, testing, treatment and outbreak control; environmental health education, inspections, and enforcement; chronic disease prevention and screening programs; community health assessment and planning; and disaster preparedness and response.

An MPH program at UMC would expand the opportunities for our member agencies to partner with MU in:

- offering students practical experience in planning and implementing community based public health programs
- creating a critical partnership in securing grants, and
- strengthening links between local public health agencies and the University of Missouri

MoALPHA looks forward to working more closely with MU in the future, a sure outcome of the development of the MU Master's of Public Health program in Columbia.

Sincerely,
Mahree Fuller Skala
Executive Director

Appendix B: EXPECTED ENROLLMENT

Total MPH Student Enrollment Numbers and Credit Hours Projected Over Five Years											
		Year One		Year Two		Year Three		Year Four		Year Five	
		Students	Credit Hrs	Students	Credit Hrs	Students	Credit Hrs	Students	Credit Hrs	Students	Credit Hrs
VETERINARY PUBLIC HEALTH											
	4 Yr Dual	4	24	10	60	16	96	24	144	28	168
	2 Yr Professional	2	32	5	80	6	96	7	112	8	128
	Trad (Vet Emph)	2	60	5	120	6	135	6	135	6	135
HEALTH PROMOTION AND DISEASE PREVENTION											
	5 Yr Dual	2	12	4	24	7	42	10	48	12	60
	3 Yr Dual	4	32	8	64	12	96	12	96	12	96
	Professional	8	120	16	256	18	286	20	320	24	380
	Trad	6	144	10	348	12	468	14	552	16	636
PUBLIC HEALTH POLICY AND ADMINISTRATION											
	3 Yr Dual	2	12	4	24	7	48	8	54	8	63
	Professional	2	30	4	64	5	79	6	96	6	96
	Trad	6	180	12	252	14	312	16	336	16	336
TOTALS		38	646	78	1061	103	1658	123	1893	136	2098

Appendix C DETAILED SURVEY DATA

PROGRAM DEMAND SURVEY RESULTS

Traditional Students

Total Respondents: 844

This survey was administered at www.surveymonkey.com

Introduction to survey, as seen by respondents:

The University of Missouri - Columbia is considering developing a Master of Public Health (MPH) degree program. The degree would combine a broad spectrum of health and science subjects. Students would have the option of choosing a focus area, such as Health Promotion and Disease Prevention, Public Health Policy and Administration, or veterinary medicine.






The MPH program would be 45 credit hours and students who have a bachelor's degree would be eligible to apply for admission. In addition, students in graduate or professional programs may have the opportunity for a dual degree. Graduates will find jobs in private industry, local and county health departments, the state department of health, and in community agencies.

To help us gauge the interest level for creating such a program, we would appreciate your filling out a confidential online survey. Information that you provide will be used for program development purposes only. Your participation in this survey is voluntary and you may exit the survey at any time if you do not wish to continue

The survey will take you fewer than five minutes to complete!

Thank you for your time and valuable input.

Results for Traditional Students

1. What is your year in college?			
		Response Percent	Response Total
Freshman		5.2%	44
Sophomore		6.4%	54
Junior		12.8%	108
Senior		18.3%	154
Graduate/Professional		57.2%	482
Total Respondents			842
(skipped this question)			2

2. In what College or School are you enrolled?			
		Response Percent	Response Total
College of Agriculture, Food and Natural Resources		10.1%	85
College of Arts and Science		17.9%	150
College of Business		13.2%	111
College of Education		0.7%	6
School of Health Professions		6.9%	58
College of Human Environmental Sciences		2.3%	19
School of Social Work		2.3%	19
School of Journalism		6%	50
School of Nursing		14.6%	123
School of Law		2.9%	24
College of Veterinary Medicine		9%	76
School of Medicine		8.5%	71
Truman School of Public Affairs		3.2%	27
Other (please specify)		2.5%	21
		Total Respondents	840
		(skipped this question)	4

3. How likely are you to enroll in an M

Very likely	
Likely	
Unlikely	
Not likely at all	

4. What particular public health area(s)

Biostatistics	
Disease Control and Prevention	
Epidemiology	
Health Policy and Administration	
Veterinary Public Health	
Other (please specify)	

5. Do you feel that a Master's degree in Public Health (MPH) would be valuable to your future career?			
		Response Percent	Response Total
Yes		46%	367
No		29.1%	232
Don't Know		24.8%	198
		Total Respondents	797
		(skipped this question)	47

6. Do you have financial assistance that would be available if you enrolled in an MPH program?			
		Response Percent	Response Total
Yes		22.7%	180
No		38%	302
Don't know		39.3%	312
		Total Respondents	794
		(skipped this question)	50

7. If the MPH program were offered at MU, what method of delivery would you prefer?			
		Response Percent	Response Total
Online		33.1%	258
Traditional classroom setting		66.9%	522
Total Respondents			780
(skipped this question)			64

8. If the program were offered predominantly online, how often would you be willing to come to the MU campus for limited classroom sessions?			
		Response Percent	Response Total
Once a month for a Friday afternoon/Saturday weekend session		56.1%	143
Once every two months for a Friday afternoon/Saturday weekend session		16.1%	41
Once during the term for a week-long intensive series of classroom sessions		10.2%	26
Never - make the program completely online		17.6%	45
Total Respondents			255
(skipped this question)			589



Conducted and Submitted by:
MU Extension Marketing
Dolores Shearon, Director
301 Whitten Hall, Columbia, MO 65211

Educational Needs Assessment

Conducted for:
Chancellor's Committee for the
Master's Degree in Public Health

Contact: Kris Hagglund, Ph.D.
Associate Dean, School of Health Professions

Master of Public Health Summary

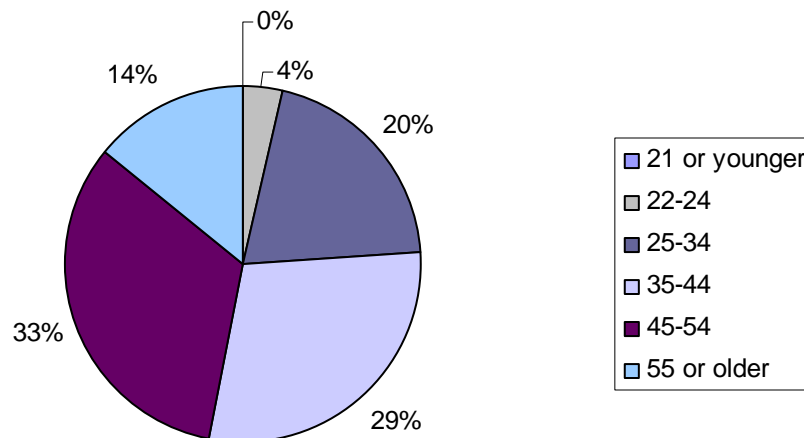
In an effort to ascertain the level of interest, prospective student demographics and desired features for a new master of public health program at the University of Missouri-Columbia, we conducted a survey in December 2004 and early January 2005. The survey was distributed electronically in the mid-Missouri area to employees of the Missouri Department of Health and Senior Services, Audrain Medical Center in Mexico, Cooper County Memorial Hospital in Boonville, Fulton State Hospital, UMC Health Care and Truman Memorial Veterans' Hospital. Surveys and a brief write-up with an invitation to complete the survey were e-mailed to public relations or other administrative contacts at those facilities, and the contacts agreed to disseminate the information via electronic or printed employee communication vehicles. Of those potential participants who received an invitation to take the survey, 208 responded by Jan. 8, 2005.

EMPLOYMENT

The participant group consisted predominantly of local/state health departments (47.5%), hospitals (21.1%) or public health departments (24%) in areas such as nursing (18%), administration (19.5%) or other local and state government agencies (14.6%). 94.3% of participants indicated that they were employed full time, whereas only 5.7% indicated part-time employment.

AGE GROUP

The participant pool consisted of 84.1% females and 15.9% males. The largest age group was 45-54 (32.8%), followed closely by 35-44 (29.2%) and 25-34 (20.3%). The smallest groups were ages 24 or younger (3.6%) and 55 or older (14.1%).



COUNTY OF RESIDENCE

The majority of respondents indicated they live in Boone County (61). Other respondents were from: Cole (19), Jackson (11) and Audrain (8). Other counties in Missouri had six participants or fewer.

EDUCATION

The largest group of respondents had a *four-year degree only* (36.5%). Other education categories included: a *four-year degree with health-care certification/licensure* (22.9%), a *graduate degree* (23.4%) or *some graduate school* (16.1%).

When asked whether they currently were taking a college course or pursuing a degree, 90.2% replied *no* and 9.8% indicated *yes*. Of those who indicated *yes*, 55% said they were attending a *public four-year college or university*, 25% said they were attending a *private four-year institution*, and 5% listed a *community college*.

MASTER'S DEGREE

A majority of respondents (79%) answered *yes* when asked if they felt a master's degree in public health would be valuable to their professional career. 46.2% of this group indicated they were *likely* to take courses toward a public health degree in the next two years, while 22.1% indicated they would be *very likely*. 29.1% indicated they would be *unlikely* to take courses, and 2.5% said they were *not likely at all*.

Only 7.6% were currently pursuing a master's or other graduate degree. Of those 7.6%, five of the fifteen persons are attending or planning to attend the University of Missouri-Columbia. Other area colleges/universities listed include Columbia College, St. Louis University, William Woods University, University of Missouri-St. Louis, Webster University and Lindenwood University. Other respondents indicated they were enrolled in online programs through the University of Phoenix, Walden University and American Public University System (American Military University).

DELIVERY METHOD

When asked what course delivery method they would prefer, 50.5% said *online*, and 42.9% said a *combination of online and classroom setting*, while only 6.6% said they preferred a *traditional classroom setting only*.

If the program were offered predominantly online, 49.2% said they would prefer to meet once a month for a Friday afternoon/Saturday weekend session, and 26.6% indicated once every two months. 21.1% requested that the program be made available completely online.

Question 9 – *If the program were offered predominantly online, how often would you be willing to come to the UMC campus for limited classroom sessions?*

	Response Percent
Once a month for a Friday afternoon/Saturday weekend session	49.2%
Once every two months for a Friday afternoon/Saturday weekend session	26.6%
Once during the term for a weeklong intensive series of classroom sessions	3%
Never – make the program completely online	21.1%

Question 10 – *If you prefer a traditional classroom setting for all of your course work, you would need to come to the UMC campus in the early morning or evening for class. How many mornings or nights per week would you prefer to come to campus?*

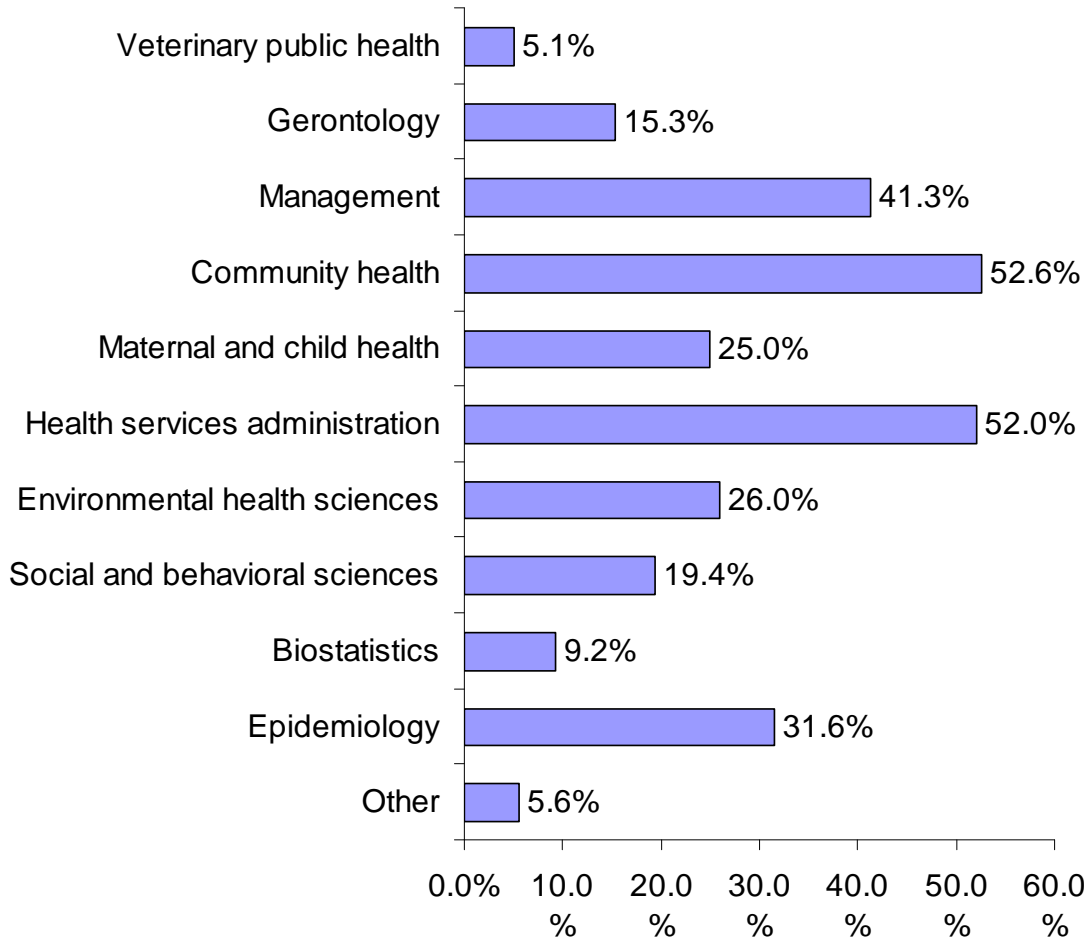
	Response Percent
Early mornings one day a week for up to four hours	3.3%
Early mornings two days a week for up to two hours	0.8%
One night a week for up to four hours	42.5%
Two nights a week for up to two hours	21.7%
Weekends	31.7%

COURSE LENGTH

When asked what course length they would prefer, participants selected 8-week terms (61%) above 16-week semesters (39%).

FOCUS AREAS

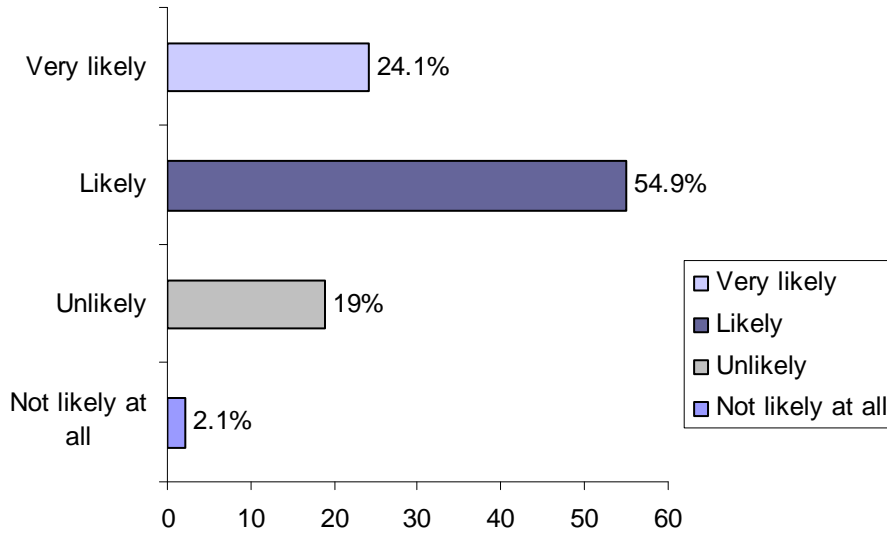
Both *Community Health* (52.6%) and *health services administration* (52%) received the highest number of responses, followed by *management* (41.3%) and *epidemiology* (31.6%) as preferred areas of focus. Participants could select more than one



option.

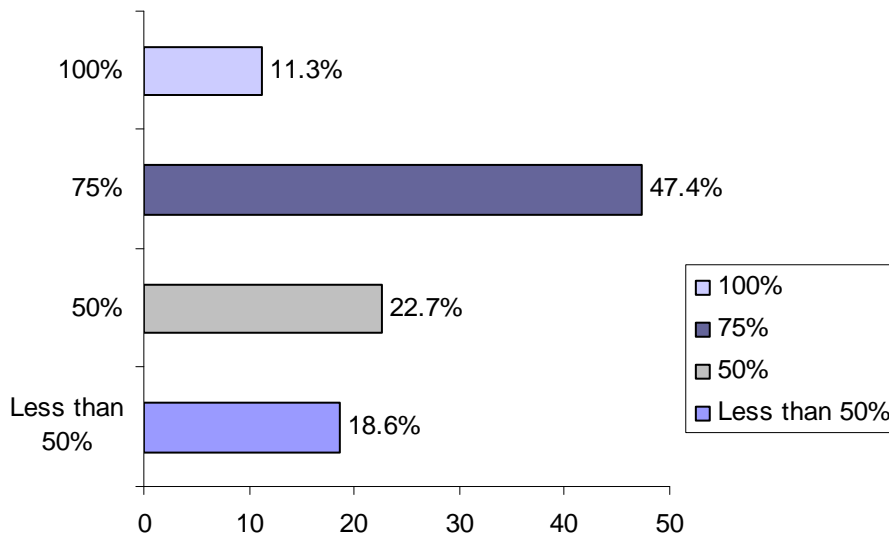
LIKELIHOOD OF ENROLLMENT

When asked whether or not they would enroll in the next two years if the University of Missouri-Columbia began offering a master of public health degree, 54.9% indicated *likely* and 24.1% indicated *very likely*, while 21.1% were *unlikely* or *not likely at all* to enroll.



EMPLOYEE TUITION ASSISTANCE/INCENTIVES

Participants indicated that 52.8% had employers who provided *tuition assistance*, while 47.2% did not. Of those who answered yes, 47.4% were able to receive *75% tuition coverage*, and 22.7% were able to receive *50% tuition coverage*. Only 11.3% could receive *100% tuition*, and 18.6% could receive *less than 50%*.



When asked what other incentives employers might provide for completing an MPH, 63.3% indicated *none*, 20.4% listed receiving *release time*, 16.3% would be interested in a *salary*

increase and 12.2% said *promotion*. Only 7.1% indicated they would want to be able to go on business-related *travel or receive a travel allowance*.

AWARENESS OF OTHER MPH PROGRAMS

70% of participants were not aware of any other MPH programs available in this region, whereas 30% said they were aware of other area programs. When participants were asked which university's MPH degree they would prefer to pursue if they had a choice of programs that were accessible to where they live, 80% indicated the *University of Missouri-Columbia*, and 20% indicated *Southwest Missouri State University*. Zero respondents selected St. Louis University, which is the only one of the three options that currently has an active MPH offering.

ANALYSIS OF GROUP VERY LIKELY OR LIKELY TO TAKE COURSES

Participants who indicated they were *very likely* or *likely* to take courses for a public health degree in the next two years were made up primarily of women (89%) between the ages of 25 and 54 who have obtained at least a four-year degree (35%), a four-year degree with health-care certification/licensure (22%), some graduate school (20%) or a graduate degree (23%), and who work full time (96%). They live primarily in Boone, Cole, Jackson, and Audrain counties, although some live in the St. Louis area and a few are as far away as Butler County in Southeast Missouri.

Most of the participants indicated they worked in departments such as nursing, administration or other local and state government agencies. High numbers also indicated that they worked in planning and development, patient-care services and food services and nutrition. Departments not provided as choices in question two, but added by participants, include research, environmental health and education.

87% felt that a master's degree in public health would be valuable to their professional career. 35% indicated they would be *very likely* and 65% said they would be *likely* to enroll in the next two years at the University of Missouri-Columbia if it began offering a master of public health degree. 92% of respondents reported that they were not currently pursuing a master's or other graduate degree.

When asked what course delivery method they would prefer, participants ranked online (49%) as most preferred, with a combination of online and a traditional classroom (44%) a close second. A very small number (7%) indicated they preferred a traditional classroom only.

If the program were offered predominantly online, participants gave *once a month for a Friday afternoon/Saturday weekend session* their highest rating (57%). Once every two months (24%) ranked second, and 18% indicated they wanted the program offered completely online.

The largest number of participants indicated the following focus areas were ones that they would consider (in order of most requested): community health, health services administration, management, epidemiology and maternal and child health. Veterinary medicine, gerontology and biostatistics were ranked lowest, while environmental health and social and behavioral sciences ranked in the middle. Other areas of interest included preventive or clinical medicine,

pediatrics, occupational health, mental health, medical education, communicable diseases, and bioterrorism.

Appendix D: COURSE DESCRIPTIONS

REQUIRED COURSES FOR PUBLIC HEALTH POLICY AND ADMINISTRATION

Principles of Public Health (3).* Fundamental knowledge in theory and application of public health. Overview of research methods, epidemiology, environmental health, program and policy development and implementation to prevent disease and promote health at the community level.

STAT 7410 Biostatistics I (3). Study of statistical techniques for the design and analysis of clinical trials, laboratory studies and epidemiology. Topics include randomization, power and sample size calculation, sequential monitoring, carcinogenicity bioassay and case-cohort designs.

NURS 8100 Epidemiology for Public Health Practice (3). Explores important concepts of epidemiology, including distribution and determinants of disease. Focus will be on the public health/population based practice.

Social and Behavioral Sciences in Public Health (3).* Concepts and methods of social and behavioral sciences relevant to the identification and solution of public health problems.

Environmental Health (3).* Environmental factors including biological, physical, and chemical factors that affect the health of a community.

HMI 7410 Health and Human Service Systems (3). Organization and delivery of health care services within the US health care system. The course covers socioeconomic, political and environmental forces influencing the organization, financing and delivery of personal and public health services.

HMI 8450 Methods of Health Services Research (3). Writing intensive course provides students with basic understanding of literature search, experimental designs, evaluation methods, ethics, reporting and application of health services research. Practical research problems are discussed and students prepare a professional, managerially relevant research proposal.

NURS 8130 Developing and Evaluating Health Programs (3). Designing and implementing cost-effective programs in health agencies. Controversies associated with specifying and appraising outcomes of health programs.

Public Health Financial Management (3).* This course will target budgeting, spreadsheets, and fiscal operations of program planning and management.

HMI 7401 Health Ethics (3). This seminar is designed for students in the health professions and related disciplines who are seeking to develop skills and a working knowledge of health ethics and how to respond when confronted by ethical dilemmas in the clinical and organizational setting.

PA 8520 Human Resources Mgmt & Development in Public & Nonprofit Sector (3). Examines the political, economic, and legal context of the personnel function, as well as the technical aspects of the personnel administrator's job. Stresses the dynamics of bureaucratic organizations.

Field Internship (3) or (6). Field internships will be based in local and state public health departments and public health community organizations. Students will learn first-hand about public health organizations and complete a project that demonstrates understanding of the application of public health theory, principles, and methods in real-life settings.

SUGGESTED ELECTIVES FOR PUBLIC HEALTH POLICY AND ADMINISTRATION

HP 7310 Health Policy for the Health Professional (3). Seminar to facilitate understanding of health policy, the legislative process, and politics. Emphasis on health professions, including issues of workforce, funding, and advocacy in the context of current health policy issues.

PA 7000 Health Economics (3). Building upon previous knowledge of basic economic theories, concepts, and tools, the structure, organization, activities, functions, and problems of health and medical care are considered from an economics perspective.

HMI 8450 Methods of Health Services Research, part II (3). Writing intensive course provides students with basic understanding of literature search, experimental designs, evaluation methods, ethics, reporting and application of health services research. Practical research problems are discussed and students prepare a professional, managerially relevant research proposal.

HDFS 8710 Children, Families and Public Policy (3). Seminar on societal issues relating to children and families, with focus on the development of public policies.

SOC WK 8200 Family and Child Welfare Policies and Programs (3). Graduate seminar on policies and programs relevant to social work practice in the family and child welfare field, including policies on aging. Prerequisite: graduate standing; consent required.

SOC WK 8300 Advanced Social Policy for Planning and Administration (3). Focus on integration of cognitive and skill components of policy development, analysis and change with special emphasis on utility by social work administrators and planners.

HMI 7430 Design and Mgmt of Health Information Systems (3). Examines clinical research and administrative application of the computer in health services delivery. Provides an introduction to medical informatics.

NURS 8120 Community-Based Public Health Interventions (3). Assessing and diagnosing health-related needs of at-risk and vulnerable populations. Evaluating outcome-based research. Clinical practice implementing a public health intervention.

PA 8530 Strategic Planning and Performance Measurement (3). Presents the rationale for strategic planning, and techniques and processes to develop and implement strategic planning in the public sector.

REQUIRED COURSES FOR VETERINARY PUBLIC HEALTH

STAT 7410 Biostatistics I (3). Study of statistical techniques for the design and analysis of clinical trials, laboratory studies and epidemiology. Topics include randomization, power and sample size calculation, sequential monitoring, carcinogenicity bioassay and case-cohort designs.

VPB 8421 Epidemiology (2). Advanced epidemiologic theory and methods in the study and control of infectious and noninfectious diseases.

VPB 8458 Veterinary Public Health (3). Required course currently taught in veterinary professional curriculum. Focus is on safety of human foods of animal origin, diseases transmitted from animals to man, and health impact of emergent diseases and catastrophic events.

VMS 8431 Research methods and data analysis (2). Graduate survey course designed to prepare students for quantitative research. Focus is on proper experimental design and common data analysis techniques in biomedical research and clinical practice.

HP 7300 Health Care in the U.S. (3). Overview of financing, structure, and outcomes in the U.S. health care system. Contemporary health care issues, policy, and politics will be addressed.

VPB 5580 Veterinary Informatics (1). Required course currently taught in veterinary professional curriculum. Focus is on computer skills and database management.

VPB 5552 Veterinary Bacteriology I (2.5). Classification and properties of pathogenic bacteria and fungi of animals; relationship to public health; considers pathogenesis, immunology of infection.

VPB 5553 Veterinary Bacteriology II (2.5). Continuation of 5552.

VPB 8454 Veterinary Virology (2). An introduction to the biology of viruses and overview of viral pathogens and pathogenesis in animal species.

VPB 8457 Veterinary Parasitology (5). An introduction the lifecycles, transmission and control of protozoal and helminth parasites in animal species.

VBMS 5509 Veterinary Toxicology (3). Local and various systemic clinical responses of domestic animals to foreign chemicals including metals, pesticides, water-and food-borne agents, biotoxins, industrial and plant toxins. The principles, mechanism(s) of action, diagnosis, prevention and treatment of chemical intoxications are also presented.

VMS 8450 Research in Veterinary Medicine and Surgery (6). Capstone research or clinical experience.

SUGGESTED ELECTIVES FOR VETERINARY PUBLIC HEALTH

Biostatistics II (3).* Extends concepts and methods introduced in Biostatistics I. Topics include multivariate modeling, survival analysis with covariates, principal components analysis, non-linear regression, and non-random modeling.

Quantitative Veterinary Epidemiology (3).* Planned course which will build on prior coursework and emphasize quantitative epidemiology and biostatistics applications in clinical practice, population disease investigations and biomedical research.

FCM 8430 Applications of Evidence Based Medicine I (3). Students will participate in editing, presentation and publication of evidence-based reviews of current medical literature.

FCM 8431 Applications of Evidence Based Medicine II (3). Students will participate in editing, presentation and publication of evidence-based reviews of current medical literature.

FCM 8421 Clinical Epidemiology (3). Advanced epidemiologic theory and methods in the study and control of infectious and noninfectious diseases.

Food Animal Production Medicine (6). Will focus on the reproductive, metabolic and immunologic physiology of beef, dairy and swine with additional emphasis on spreadsheet and data base applications.

Any Graduate level statistics course (7000 or greater)

Any course that is a requirement for another concentration (7000 or greater)

REQUIRED COURSES FOR HEALTH PROMOTION AND DISEASE PREVENTION

Principles of Public Health (3).* Fundamental knowledge in theory and application of public health. Overview of research methods, epidemiology, environmental health, program and policy development and implementation to prevent disease and promote health at the community level.

STAT 7410 Biostatistics I (3). Study of statistical techniques for the design and analysis of clinical trials, laboratory studies and epidemiology. Topics include randomization, power and sample size calculation, sequential monitoring, carcinogenicity bioassay and case-cohort designs.

NURS 8100 Epidemiology for Public Health Practice (3). Explores important concepts of epidemiology, including distribution and determinants of disease. Focus will be on the public health/population based practice.

Social and Behavioral Sciences in Public Health (3).* Concepts and methods of social and behavioral sciences relevant to the identification and solution of public health problems.

HP 7300 Health Care in the U.S. (3). Overview of financing, structure, and outcomes in the U.S. health care system. Contemporary health care issues, policy, and politics will be addressed.

HP 7310 Health Policy for the Health Professional (3). Seminar to facilitate understanding of health policy, the legislative process, and politics. Emphasis on health professions, including issues of workforce, funding, and advocacy in the context of current health policy issues.

NURS 7210 Human Health and the Environment (3). Examination of relationships between human health and global environmental quality. Overview of assessing, communicating, and managing environmental risks within the framework of public health's core functions.

NURS 8120 Community-Based Public Health Interventions (3). Assessing and Diagnosing health-related needs of at-risk and vulnerable populations. Evaluating outcome-based research. Clinical practice implementing a public health intervention.

NURS 8130 Developing and Evaluating Public Health Programs (3). Designing and implementing cost-effective programs in health agencies. Controversies associated with specifying and appraising outcomes of health programs.

SOC WK 8300 Advanced Social Policy for Planning and Administration (3). Focus on integration of cognitive and skill components of policy development, analysis and change with special emphasis on utility by social work administrators and planners.

Field Internship (3) or (6). Field internships will be based in local and state public health departments and public health community organizations. Students will learn first-hand about public health organizations and complete a project that demonstrates understanding of the application of public health theory, principles, and methods in real-life settings.

SUGGESTED ELECTIVES FOR HEALTH PROMOTION & DISEASE PREVENTION

Biostatistics II (3).* Extends concepts and methods introduced in Biostatistics I. Topics include multivariate modeling, survival analysis with covariates, principal components analysis, non-linear regression, and non-random modeling.

Epidemiology II (3).* Advanced study of epidemiology focusing on skills and methodology to conduct and interpret epidemiologic and health services research.

SOC WK 8200 Family and Child Welfare Policies and Programs (3). Graduate seminar on policies and programs relevant to social work practice in the family and child welfare field, including policies on aging.

SOC WK 8953 Evaluative Research in Social Work Planning and Administration (3). Develop ability to design and implement appropriate evaluative research methods and strategies employed in social and human service program planning and management.

HMI 7401 Health Ethics (3). This seminar is designed for students in the health professions and related disciplines who are seeking to develop skills and a working knowledge of health ethics and how to respond when confronted by ethical dilemmas in the clinical and organizational setting.

NURS 7200 Women's Health (3). A survey of international and domestic women's health issues; considers historical antecedents and specific effects of socio-cultural variables and economic development on women's health in developing and developed nations.

NUTR 8340 Nutrition in Human Health (3). Nutritional aspects of maintaining human health with emphasis on chronic disease prevention. Grades based on classroom participation and four exams.

HDFS 7510 Administration of Programs for Children and Families (3). Examines and evaluates design, policies and procedures of early childhood and other human services programs.

HDFS 8710 Children, Families and Public Policy (3). Seminar on societal issues relating to children and families, with focus on the development of public policies.

Appendix E: Sample Degree Program for a Traditional Student in Health Promotion and Disease Prevention

First Semester (12 graduate credit hours)

Principles of Public Health	3
STAT 7410 Biostatistics I	3
HP 7300 Health Care in the United States	3
NURS 8100 Epidemiology for Public Health Practice	3

Second Semester (12 graduate credit hours)

Social and Behavioral Sciences in Public Health	3
NURS 7210 Human Health and the Environment	3
NURS 8120 Community Based Public Health Interventions	3
HMI 7401 Health Ethics	3

Third Semester (12 credit hours)

SOWK 8200 Family and Child Welfare Policies and Programs	3
SOWK 8300 Advanced Social Policy for Planning and Adm.	3
NUTR 8340 Nutrition in Human Health	3
Advanced Epidemiology	3

Fourth Semester (9 credit hours)

NURS 8130 Developing and evaluating public health programs	3
HP 7310 Health Policy for the Health Professional	3
Graduate Field Internship	6

Appendix F: INSTITUTIONAL RESOURCES

University of Missouri – Columbia

The University of Missouri-Columbia, UMC, was founded in 1839 as the first public university west of the Mississippi River, the first public university in Thomas Jefferson's Louisiana Purchase territory. UMC is the largest and oldest campus of the state's major public research institutions. UMC's primary mission in research and doctoral education provides enhanced opportunities in the sciences and in selected professional fields. As a predominantly residential campus, UMC serves select and diverse undergraduate and professional students from all parts of the state. Its graduate students are recruited nationally and internationally.

UMC is one of only 34 public U.S. universities, and the only public institution in Missouri, to be selected for membership in the Association of American Universities. AAU members are the most distinguished group of research universities in the nation. The only other AAU member in Missouri is Washington University.

UMC has two libraries to support the research effort of this proposal. The UMC library has holdings which number 2.6 million books, 5 million microfilms, and 17,776 serial titles, many of which are online. Included is an extensive collection of federal and state reports and statutes. The J. Otto Lottes Health Sciences Library holds 237,714 volumes. Current periodical subscriptions include 1,402 print journals—832 full text electronic, and 543 electronic and print. In addition, online computer database searches are readily available to faculty and students through the World Wide Web. The Library also offers access to Medline, CINAHL, HealthSTAR, SocioFile, PsycINFO, and other computerized databases. The University's libraries have solid holdings in health and rehabilitation sciences. Additional resources are available via the inter-library loan arrangement between the four University of Missouri system campuses, and other universities, and colleges. UMC's libraries, with more than 3 million volumes, are part of the largest public research collection in Missouri.

School of Medicine

The Department of Family and Community Medicine has a 25-year history of preparing physicians for teaching and public health-related careers with Master of Science (Public Health) and Master of Science (Education) degrees as part of a two-year fellowship. The department has the following resources and expertise to enhance the proposed MPH program:

- 52 faculty members; 8 physician faculty with master's degrees in public health or related fields;
- Its own library and two medical librarians;
- Classrooms with advanced information technology capabilities; and
- The department is ranked second nationally of departments of family medicine.

The Department of Health Management and Informatics (HMI) is an important resource for the public health program. The mission of HMI is to create the future of health care by providing evidence-based solutions to health policy decisions, prepare leaders who effect positive change in health care organizations, and offer professional management and informatics education. The department has the following resources and expertise to enhance the proposed MPH program:

- HMI has been continuously accredited since such a process began for accrediting health administration programs;
- HMI offers the MHA degree through both on-campus and on-line formats and is accredited as a single program and students may be dual-enrolled in the MPH and MHA;
- The Health and Behavioral Risk Research Center (HBRRC) is the measurement and surveillance unit for the University and houses the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) survey for Missouri's Department of Health and Senior Services; and
- The Missouri Cancer Registry (MCR; <http://www.mcr.umh.edu>), a collaborative effort between the Missouri Department of Health and Senior Services (DHSS) and the University of Missouri.

College of Veterinary Medicine

The College of Veterinary Medicine will be a major contributor to the MPH program. Population medicine concepts are integrated throughout the current professional student curriculum, including several stand alone courses in public health and epidemiology. The College has the following resources and expertise to enhance the proposed MPH program:

- A cadre of faculty members with a strong epidemiology and population medicine focus;
- Expertise in preventive veterinary medicine, including preventing diseases from being transmitted from animals to man;
- Capacity to implement a dual DVM/MPH degree to meet the strong demand for such a degree among students; and
- Research expertise that will allow federal grants (CDC and USDA) to be obtained once the MPH is implemented.

Sinclair School of Nursing

UMC's Sinclair School of Nursing is committed to promoting, maintaining, and improving health and health care delivery through professional education, research, and service within the discipline of nursing. The School of Nursing has the following resources and expertise to enhance the proposed MPH program:

- Existing coursework in public health;
- Classrooms with integrated technology;
- Capacity to implement a dual MSN/MPH degree to meet the strong student and market demand for such a degree; and
- Faculty member expertise in epidemiology and community health.

The School of Health Professions

The School of Health Professions will be a major contributor to the MPH program. The School of Health Professions is Missouri's only state-supported school of health professions on a campus with an academic health center. As such, it is uniquely positioned to educate highly qualified health care professionals committed to fulfilling our mission of improving society through education, service, and discovery in health and rehabilitation sciences.

The School's five departments and seven accredited academic programs have a long and distinguished history and continue to produce many well respected and nationally recognized

professionals. The School of Health Professions has the following resources and expertise to enhance the proposed MPH program:

- Faculty member expertise in health policy, exercise, community health, and wellness;
- Capacity to offer dual degrees with Occupational Therapy and Physical Therapy to meet student and market demand; and
- MPH internship training sites, including The Health Connection and the Adult Day Connection (previously Eldercare).

The Department of Statistics

Statistics is central to any MPH program and the Department of Statistics is a major resource for the proposed program. The Department consists of 14 tenured or tenure-track faculty members, 9 full-time teaching faculty, two administrative staff and two statistical software experts. Faculty expertise includes survival analysis, longitudinal analysis, adaptive designs, biostatistics, clinical trials, epidemiology, micro-array analysis, population growth modeling, spatial statistics, Bayesian statistics and time-series. The Department of Statistics also has the following resources and expertise to enhance the proposed MPH program:

- Established infrastructure to facilitate interdisciplinary research through consulting sites, including those in the MU Life Sciences Center and the Department of Natural Resources and the Department of Animal Sciences; and
- Established collaborative relationships with faculty members in the health sciences;

Extensive statistical software and networking capabilities for instruction and research.