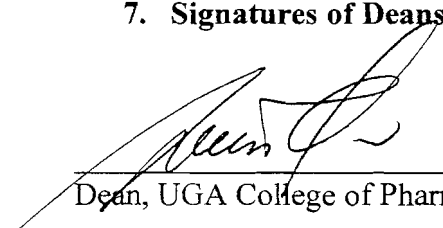



The University System of Georgia
Dual Degree Program Proposal

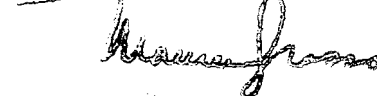
1. **Institution:** The University of Georgia
2. **Date:** 12 June 2006
3. **Colleges:** University of Georgia Colleges of Pharmacy and Public Health
4. **Degrees to be offered**
 - a. Doctor of Pharmacy, Pharm.D., and
 - b. Masters in Public Health, M.P.H.
5. **Majors to be offered**
 - a. Pharmacy – No major to be offered;
 - b. College of Public Health – Masters in Public Health, M.P.H.:
 - 1). Health Administration, Biostatistics, and Epidemiology
6. **Starting Date:** Spring Semester 2007
7. **Signatures of Deans and Provost**


Date: 28 June 2006


Dean, UGA College of Pharmacy


Date: 28 June 2006

Dean, UGA College of Public Health


Date: 10/18/06

Dean, Graduate School


Date: 10/30/06

Provost, University of Georgia

8. Program Abstract

The College of Pharmacy has benefited the health and well-being of Georgians for 103 years. During this past century of care, pharmacists have impacted public health in the state as well through health promotion and disease prevention activities. Currently, with the threats of pandemic disease (avian influenza) and bioterrorism, and the need for community level impacts benefiting patients, the role of the pharmacist with public health training is critical and timely. Georgia ranks among those states with the highest per capita incidence of premature death, infant mortality, infectious and zoonotic diseases,

heart disease, cancer, and substance abuse. In addition, drug related morbidity and mortality from prescribed drug therapies are rampant in Georgia and elsewhere. Recent and future anticipated changes in governmental sponsored health insurance and drug benefit programs¹ will require competent, involved and comprehensive interventions to ensure appropriate use of drugs as well as disease and preventive services in Georgia. This strengthening of the public health workforce will provide tangible benefits to Georgians from research and service applications. A compelling need exists to address these and other health problems. However, there is currently no dual degree program with pharmacy and a public health program within the University System of Georgia that can educate professionals to address these health issues and conduct public health related research and outreach. An expedient and resource-efficient means of addressing Georgia's chronic and pervasive health problems is to develop dual programs between health professional training programs in Georgia. This current document proposes the creation of a dual UGA M.P.H. and Pharm.D. Degree program which would allow students to acquire both degrees with an additional one and one-half years of study. A total of 9 hours of elective and required coursework in the UGA College of Pharmacy Curricula would be counted as elective hour components of the UGA College of Public Health M.P.H. curriculum.

9. Objectives of the program

- (1) To develop the necessary institutional mechanisms to assist legislative, executive and agency initiatives to address Georgia's chronic and pervasive health problems through public health education, prevention-oriented health research, and health information public service and outreach impacting all 159 counties of Georgia through dually trained professionals;
- (2) To increase the availability of affordable education and training in public health so that more pharmacists can obtain public health degrees in an accredited public university program in Georgia; and work to ensure that more Georgians with public health expertise remain in Georgia;
- (3) To present UGA pharmacy students with an additional curricular option for post-graduate positions in Georgia;
- (4) To allow pharmacy students to obtain Pharm.D. and M.P.H. degrees with an additional one and one-half years of education;

10. Justification of the need for the program

The U.S. Public Health Service recognizes and reinforces the need for a Public Health Pharmacist in *Public Health Workforce: An Agenda for the 21st Century*.² There are

¹ State of Georgia Medicaid (2006 and beyond), and U.S. Centers for Medicaid and Medicare Services (2006 and beyond).

² Public Health Service, United States Department of Health and Human Services, A Report of the Public Health Functions Project: <http://www.health.gov/phfunctions/pubhlth.pdf>

several critical factors that support the initiation of this dual degree program at the University of Georgia. The four that follow are prescient factors that exist, and will only intensify in their importance in the near and long-term future.

a. Societal Need

Georgia ranks last in per capita funding for public health among the 50 states³ and provides a paltry \$7 per citizen for health dollars spent on public health initiatives. In 1990, Georgia was ranked 40th on spending for public health, and 42nd on per capita spending on health. The chronic disease indicators for Georgia are desperate in comparison with other states:

- 19th in cancer deaths (31 states are worse).
- 42nd in premature deaths (only 8 states are worse).
- 29th in the prevalence of smoking (only 21 states are worse).
- 43rd in the prevalence of obesity (highest percentage rate of increase in prevalence of obesity in the U.S. (only 7 states have worse rates).

A significant method of attenuating these and other impacts upon the morbidity and mortality data pertinent to Georgia is through an enhancement of the public health workforce in Georgia. The graduates from the College of Public Health and certainly from the dual degree program can impact mightily on these and other public health indicators. Modulating the severity of disease and improving the process of delivering preventive health services is a component of the missions of both the Colleges of Public Health and Pharmacy. Graduates from this program will meet an extant, pressing need for improving the health status of citizens in the State of Georgia.

b. Student Demand

Numerous Pharm.D. students currently in the pharmacy program have expressed an interest in pursuing post-graduate opportunities in public health. Students in the final year of the pharmacy program are contemplating applying for varying M.P.H. options at Emory University. Several current students have expressed an interest in pursuing a M.P.H. here at UGA. At present, there is not a mechanism for students to pursue a dual degree in Pharmacy and Public Health anywhere within 1,500 miles of UGA. Thus, current students interested in a M.P.H. degree program must apply for entry into a two year program. Through offering a dual Pharm.D./M.P.H. degree program, UGA would allow students an opportunity to begin the M.P.H. program while completing the Pharm.D. curriculum, and complete the requirements for the M.P.H. degree in one and one-half years.

c. National and international recognition of the importance of Public Health Pharmacy.

National and international accrediting bodies, and the World Health Organization currently address the importance of Public Health Pharmacy. For example, the Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree across the United States and adopted January

³ America's Health, 2004, United Health Foundation.

15, 2006 include among other professional competences the following pertinent to Public Health Pharmacy:

“Guideline 12.1

Graduates must possess the basic knowledge, skills, attitudes, and values to practice pharmacy independently at the time of graduation. In this regard, the college or school must ensure that graduates are competent to:⁴

- *promote the availability of effective health and disease prevention services and health policy through the ability to apply population-specific data, quality improvement strategies, informatics, and research processes to identify and solve public health problems and to help develop health policy*

Also, the accreditation guidelines address the following:

“How Pharmacy Practice Will Benefit Society. Pharmacists will achieve public recognition that they are essential to the provision of effective health care by ensuring that:

- medication-related public health goals are more effectively achieved”.

Varying World Health working papers and planning documents highlight the role of Public Health Pharmacy in vaccination distribution and vaccine administration programs, essential drug distribution schemes, selection and use of medications through rational drug use policies, and health promotion and disease preventive activities.

d. Other Reasons the Program is Desirable

Based on a recommendation of the President of the University, the Biomedical and Health Science Institute, in August, 2002, proposed a Master of Public Health (MPH) degree program at the UGA. It was proposed that the MPH degree be an interdisciplinary collaboration initially between the Departments of Environmental Health Science and Health Promotion and Behavior in cooperation with several other public health-related groups. This proposal was approved. Dean Williams from the College of Public Health, and Dean Øie from the College of Pharmacy have been very supportive of the dual degree options for pharmacy and public health. The UGA College of Pharmacy exists to provide opportunities for students to meet personal and professional goals in order to positively impact the health status of patients. Through offering this proposed dual degree program, students at UGA would have another attractive option for helping patients and society in a broader context than currently available for them in pharmacy and the health care system.

e. Comparative Programs Elsewhere

Please see Appendix A for a description and assessment of current dual Pharm.D./M.P.H. degree programs in the U.S. This document was compiled and has been distributed to faculty and administrators from both the Colleges of Pharmacy and Public Health at UGA.

f. How will this program impact students pursuing an MPH degree with the Pharm.D. degree?

The dually enrolled student will successfully matriculate through both the Public Health graduate program and professional pharmacy (Pharm.D.) programs with the same total

⁴ Adapted from CAPE Educational Outcomes, 2004

coursework requirements for both separate degrees. The Pharm.D. courses that will be taken for graduate credit will entail additional course assignments over and above the requirements for traditional Pharm.D. students for those courses taken for MPH credit. Currently, when these courses are taken at present for graduate level credit, there are additional requirements that must be completed by the graduate student taking these courses. These additional requirements may include (but not be limited to): completion of a significant paper, additional review and reporting requirements, preparation of a folio related to the coursework, completion of a research segment to be created by the student, and/or other enriching requirements. Some of the elective coursework for the MPH program will be partially fulfilled by graduate level courses approved and offered in the UGA College of Pharmacy in the Pharm.D. program. The specific electives identified are those that can currently be taken by other M.S., M.A. or Ph.D. students in various degree programs. The dual degree program will enable students to pursue the MPH degree and specialize in pharmacy, and pharmacy related applied public health areas of emphasis.

The benefit for the MPH student in taking these pharmacy courses will be to gain additional skill sets in areas of study pertaining to drugs and the drug use process. This will provide the student with an enriching opportunity to focus on the importance of public health related pharmacy components of analysis, study, and intervention. This might be related to the application of epidemiology and biostatistical expertise to drug induced diseases (pharmacoepidemiology). The MPH focus with pharmacy will allow the graduate to play a role in the structure of population based disaster related preparedness pertaining to drug distribution and use in times of public health crises. This might entail programs of warehousing of drug antidotes, active treatments, or prophylactic antibiotic distribution and use. Also this might entail the distribution vaccines and/or vaccination of large subpopulations at risk due to crisis situations. The health promotion and disease preventions skills of the MPH graduate will be enhanced with the simultaneous appreciation of disease morbidity and mortality influence capabilities of the pharmacy profession. The student with the coursework expertise in health policy will be able to assess points of impact when designing drug protocols, prescription drug use plan designs for public and private programs. Using the tools acquired in health economic coursework the graduate will be to apply these skills to assessing cost benefit, cost effectiveness, and cost utility analyses focusing on the use and comparison of drugs and varying drug treatments. Finally, through the skills gained in the MPH program, graduates will be able positively impact the health of Georgians in several unique ways with skills gained as pharmacists with public health training and expertise gained through the program.

11. Describe the process by which the proposed program of study was developed

The pursuit of a dual degree program has been supported by faculty and the administration of both the Colleges of Pharmacy and Public Health. The dual degree program was unanimously approved by the faculty of the College of Pharmacy on May 10, 2005. The dual degree program has been supported as a natural progression of the College of Public Health to partner with other UGA colleges to meet teaching, research, and service objectives.

12. Curriculum

The MPH curriculum for a student pursuing the dual degree with a concentration in Health Policy and Management can be found in Table 1. Table 2 presents the combined curriculum coursework to be completed. The student would matriculate through the Pharm.D. curriculum, and complete the degree in the standard four professional year sequence. Students would apply for entry into graduate school and the M.P.H. program during their second professional year in the Pharm.D. curriculum, and matriculate into the M.P.H. curriculum at the beginning of the first semester of their third professional year in the College of Pharmacy. Students would complete their pharmacy clerkships during their standard fourth year in the pharmacy program. This would necessitate not taking any M.P.H. coursework for this one year period. Then after completion of the pharmacy degree, students would continue with the M.P.H. coursework and complete this component in one and one-half years.

Please see Appendix B for the curriculum of the current concentration in Health Policy and Management associated with the UGA College of Public Health M.P.H. Program.

This proposal would not alter the current curricula in either college at UGA. The coursework to be applied to both the curricular requirements of the Pharm.D. and M.P.H. programs include College of Pharmacy elective courses that may be eligible for students across campus to take as well as required pharmacy curriculum courses:

- PHRM 7350 Disaster Training for Health Professionals, 3 credit hours
- PHRM 6600 Cancer Carcinogenesis, Biology, Prevention; 2 credit hours
- PHRM 7050 Abused Drugs, 3 credit hours
- PHRM 7540 Public Health and the Health Professions, 2 credit hours

Pharmacy Required Courses that may be counted as M.P.H. Electives

- PHRM 7650 Pharmacy Care Management, 2 credit hours (general personal, personnel, and financial management topics and issues covered).
- PHRM 7680 Pharmacy Law & Ethics, 2 credit hours (significant ethics component applicable to health care in general).

Please note that only 9 total hours of electives from these potential elective courses will be counted toward the completion of the MPH degree. More than 9 hours have been included here so as to provide the reader with the understanding that there are several

elective offerings that may be utilizable. Within the Pharm.D. curriculum, there will be only 10 total hours in coursework from the MPH curriculum over three didactic years of study (6 semesters total) that may maximally be counted toward credit in the Pharm.D. curriculum.

Table 1. MPH Curriculum for a Student Pursuing the Dual Degrees

Sample Program of Study – M.P.H./Pharm.D.

Pharm.D. Curriculum Years 1st and 2nd Professional Years – The same as for any Pharm.D. Student

MPH coursework, Fall Semester

EHSC 7060 Fundamentals of Environmental Health Science	3
Elective PHRM 7540, Public Health and the Health Professions	2
Total	5 hours

MPH coursework, Spring Semester

PHRM 7650 Pharmacy Care Management (Counts as MPH elective)	2
PHRM 7680 Pharmacy Law & Ethics (Counts as MPH Elective)	2
HADM 7600 Introduction to Health Policy and Management	3
Total	7 hours

MPH Public Health Courses, Fall Semester, Year 2

EPID 7010 Introduction to Epidemiology	3
BIOS 7010 Introductory Biostatistics	3
HPRB 7070 Program Planning in Health Promotion and Disease Prevention	3
HPRB 7470 Program Evaluation in Health Promotion and Health Education	3
Total	12 hours

MPH Public Health Courses, Spring Semester, Year 2

HADM 7610 Health Economics	3
HADM 7700 Public Health and Healthcare Ethics	3
HADM 7400, Public Health, Law, and Society	3
Electives	3
Total	12 hours

MPH Public Health Courses, Fall Semester, Year 3⁵

PBHL 7560 Internship in Public Health	6
PBHL 7800 Capstone Project in Public Health	3
Total	9 hours

Approximately 40% of entering students in the College of Pharmacy possess an undergraduate degree, and would be eligible for consideration into the M.P.H. program provided a suitable application was presented by the student (e.g., adequate G.R.E. scores, a competitive undergraduate G.P.A., and supportive letters of recommendation). It is anticipated that at least 5-10 students per year would apply for the dual degree program proposed here.

Table 2. Sample curricula for a student pursuing the dual degrees (All coursework depicted)

Sample Program of Study – M.P.H./Pharm.D.

Pharm.D. Curriculum Years 1st and 2nd Professional Years – The same as for any Pharm.D. Student-This is year 1 for the MPH degree.

Third Professional Year, Pharmacy and MPH coursework, Fall Semester

PHRM 5140 Pharmacy Skills Lab V	2
PHRM 5260 Clinical Pharmacokinetics	4
PHRM 5820 Self-Care and Nonprescription Medications	3
PHRM 5860 Pharmacotherapy I	4
PHRM 5920 Clinical Seminar	1
EHSC 7060 Fundamentals of Environmental Health Science	3
Elective (PHRM 7540, HADM 7540) Public Health and the Health Professions	2
Total	19 hours

Third Professional Year, Pharmacy and MPH (1st year) coursework, Spring Semester

PHRM 5150 Pharmacy Skills Lab VI	2
PHRM 7650 Pharmacy Care Management (Counts as MPH elective)	2
PHRM 5870 Pharmacotherapy II	4
PHRM 5920 Clinical Seminar	1
PHRM 7680 Pharmacy Law & Ethics (Counts as MPH Elective)	2
PHRM 5950 Advanced Drug Information and Drug Policy Management	2
HADM 7600 Introduction to Health Policy and Management	3
Total	16 hours

⁵ Total hours for MPH degree: 15 hours core requirements, 12 hours HPM concentration, 9 hours electives, and 9 hours internship and capstone.

Fourth Professional Year-Pharm.D. Curriculum
40 hours Required Pharmacy Clerkships
During the 4th year of the Pharm.D. Curriculum there will be no MPH courses taken.

MPH Public Health Courses, Fall Semester, Year 1 (Pharmacy Students 5th year of study)

EPID 7010 Introduction to Epidemiology I	3
BIOS 7010 Introductory Biostatistics I	3
HPRB 7070 Program Planning in Health Promotion and Disease Prevention	3
HPRB 7470 Program Evaluation in Health Promotion and Health Education	3
Total	12 hours

MPH Public Health Courses, Spring Semester, Year 1

HADM 7610 Health Economics	3
HADM 7700 Public Health and Healthcare Ethics	3
HADM 7400, Public Health, Law, and Society	3
Elective	3
Total	12 hours

MPH Public Health Courses, Fall Semester, Year 2 (Pharmacy Students 6th year of study)⁶

PBHL 7560 Internship in Public Health	6
PBHL 7800 Capstone Project in Public Health	3
Total	9 hours

13. Administration

The Pharm.D./M.P.H. Dual Degree Program will be directly administered by a College of Pharmacy Public Health Liaison reporting within the office of the dean of the College of Pharmacy. The Liaison of the Pharm.D./M.P.H. Dual Degree Program will be a member of the M.P.H. Advisory Committee in the College of Public Health. The College of Pharmacy Liaison will maintain a close working relationship with the Deans of the College of Public Health and the University of Georgia Graduate School.

14. Assessment

The document, *The Public Health Workforce: An Agenda for the 21st Century*⁷ will be the central reference for program assessment. The M.P.H. Advisory Committee will be used to set goals and establish additional criteria for judging quality and progress of the study areas. The number and quality of the applicants will be used as indices of the effectiveness of recruiting and growth of the Pharm.D./M.P.H. dual degree program. The quality of the students who complete the program as well as program effectiveness will also be monitored by:

⁶ Total hours for MPH degree: 15 hours core requirements, 12 hours HPM concentration, 9 hours electives, and 12 hours internship and capstone.

⁷ Public Health Service, United States Department of Health and Human Services, A Report of the Public Health Functions Project: <http://www.health.gov/phfunctions/pubhlth.pdf>

- Tracking program graduates and determining what percentage were employed in their field within nine months of graduation.
- Exit interviews with all graduating students using personal interviews and a Likert scaled tool to assess their perception of the program and how it may be strengthened to provide greater student support.
- Surveying graduates in two-year cycles post-graduation comparing what was taught versus what is required in their work. The survey will cover specific areas of the program aimed at discovering and remedying gaps in their education.
- Surveying preceptors and professionals in the field regarding their assessment of the quality of students both in the program and as graduates, the preparedness of the graduates to practice as public health professionals, and their comments on the program content and quality.

This combination of formative and summative evaluative components will be continuously refined to provide feedback into the program and correction of deficiencies, if any, as they are identified.

15. Fiscal and enrollment impact and estimated budget

There will be no fiscal impact as a result of this dual degree program. Additional faculty of staff resources will not be necessary for the delivery of this dual degree program.

Appendix A. Analysis of Dual Pharm.D./M.P.H. Programs at Other U.S. Universities

Appendix B. UGA College of Public Health Curricula, Health Policy and Management

Appendix C. University of Georgia *Doctor of Pharmacy Curriculum*

Doctor of Pharmacy Curriculum

First Professional Year

The first year curriculum introduces the student to "systems" on which the profession is based, i.e., organ systems, drug delivery systems, health care systems, computer systems, communications, and medical terminology. This provides the foundation on which the second, third, and fourth professional years are built.

Fall Semester

PHRM 3010 Introduction to Pharmacy	3
PHRM 3100 Pharmacy Skills Lab I	2
PHRM 3400 Anatomy and Physiology I	3
PHRM 3470 Pathophysiology I	3
PHRM 3050 Biochemical Basis of Disease I	2
PHRM 3800 Clinical Applications I	1
PHRM 3940 Survey of Drug Information	1
PHRM 3900 Pharm Intercommunications	<u>2</u>
	17

Spring Semester

PHRM 3200 Quantitative Methods in Pharmacy	2
PHRM 3110 Pharmacy Skills Lab II	2
PHRM 3410 Anatomy and Physiology II	3
PHRM 3480 Pathophysiology II	3
PHRM 3060 Biochemical Basis of Disease II	2
PHRM 3750 Pharmacy and US Health Care System	3
PHRM 3850 Clinical Applications II	1
PHRM 4800 Pharmacy Seminar	<u>1</u>
	17

Second Professional Year

In the second year, the curriculum focuses on drugs--their structure, function, mechanism of action, formulation, and clinical use in patients.

Fall Semester

PHRM 4050 Principles of Medicinal Chemistry I	2
PHRM 4120 Pharmacy Skills Lab III	2
PHRM 4180 Drug Therapy of Infectious Disease	3
PHRM 4200 Principles of Pharmaceutics I	2
PHRM 4410 Pharmacology I	3
PHRM 4850 Disease Management I	3
PHRM 4900 Clinical Applications III	1
Elective	<u>2</u>
	18

Spring Semester

PHRM 4060 Principles of Medicinal Chemistry II	2
PHRM 4130 Pharmacy Skills Lab IV	2
PHRM 4190 Chemotherapy of Cancer	2
PHRM 4210 Principles of Pharmaceutics II	2
PHRM 4420 Pharmacology II	3
PHRM 4860 Disease Management II	3
PHRM 4950 Clinical Applications IV	1
PHRM 3210 Pharm Statistics and Drug Inform	<u>2</u>
	17

Third Professional Year

Third year courses utilize disease and drug information presented in the first and second years to make decisions for individual patients. The student will construct pharmacotherapy regimens and write plans to monitor drug therapy for efficacy and safety.

Fall Semester

PHRM 5140 Pharmacy Skills Lab V	2
PHRM 5260 Clinical Pharmacokinetics	4
PHRM 5820 Self-Care & Nonprescription Drugs	3
PHRM 5860 Pharmacotherapy I	4
PHRM 5920 Clinical Seminar	1
Electives	<u>5</u>
	19

Spring Semester

PHRM 5150 Pharmacy Skills Lab VI	2
PHRM 5650 Pharmacy Care Management	2
PHRM 5870 Pharmacotherapy II	4
PHRM 5920 Clinical Seminar	1
PHRM 5680 Pharmacy Law & Ethics	2
PHRM 5950 Advanced Drug Information & Drug Policy Management	2
Electives	<u>5</u>
	17

Fourth Professional Year

Full time clerkship rotations in institutional, community, and other patient care settings.

Summer Semester

PHRM 5901 Required Pharmacy Clerkship I	5
PHRM 5902 Required Pharmacy Clerkship II	<u>5</u>
	10

Fall Semester

PHRM 5903 Required Pharmacy Clerkship III	5
PHRM 5904 Required Pharmacy Clerkship IV	5
PHRM 5905 Required Pharmacy Clerkship V	<u>5</u>
	15

Spring Semester

PHRM 5906 Required Pharmacy Clerkship VI	5
PHRM 5907 Required Pharmacy Clerkship VII	5
PHRM 5908 Required Pharmacy Clerkship VIII	<u>5</u>
	15

Pharmacy Curriculum Electives suggested for transfer as electives:

- PHRM 5350 (7350), Disaster Training for Health Care Professionals – 3 credit hours
- PHRM 4600 (6600), Cancer: Carcinogenesis, Biology, Prevention – 2 credit hours
- PHRM 5050 (7050), Abused Drugs – 3 credit hours
- PHRM 5540, Public Health and the Health Professionals – 2 credit hours