

**New Program Proposal  
 Master of Public Health in Biostatistics  
 Medical University of South Carolina**

**Summary**

The Medical University of South Carolina requests approval to offer a program leading to the Master of Public Health in Biostatistics to be implemented in Fall 2015. The proposed program is to be offered through traditional instruction. The following chart outlines the stages of approval for the proposal; the Advisory Committee on Academic Programs (ACAP) voted to recommend approval of the proposal. The full program proposal is attached.

<b>Stages of Consideration</b>	<b>Date</b>	<b>Comments</b>
Program Planning Summary received and posted for comment	6/15/14	Not Applicable
Program Planning Summary considered by ACAP through electronic review	7/30/14	The representative from the University of South Carolina (USC) raised a concern about program duplication and stated that, given the current demand for biostatistics, there is no need to add a second program in the state. CHE staff requested that the proposal address in detail the similarities and differences between the proposed program and the program offered by USC as well as better describe the “unique pool” of students from which MUSC will enroll students for the proposed program. CHE staff also encouraged collaboration with both USC and the College of Charleston.
Program Proposal Received	1/5/15	Not Applicable
ACAP Consideration	2/12/15	ACAP members discussed the need for the proposed program. The representative from USC stated that “the curricular programs proposed at MUSC are substantially redundant of the USC programs.” The MUSC representative explained that the curriculum is very similar to USC’s program because of accreditation standards. The MUSC representative added that the program was designed to complement, not duplicate, the program offered at USC and is a broad-based professional program whereas USC’s program is more research-based. The representative from USC also suggested that the projection of 50% non-resident students may not be reasonable given the statement

Stages of Consideration	Date	Comments
		<p>about targeting potential students in the Lowcountry and MUSC faculty and staff. The representative from MUSC explained that the projection is based on the fact that most of the graduate programs offered by MUSC enroll approximately 50% non-resident students. The representative from USC also stated that the projected enrollment for the proposed program seems unrealistic. The representative from MUSC defended the enrollment projections given the demand from the program in the Lowcountry. Representatives from both USC Beaufort and the College of Charleston stated they plan to collaborate with MUSC.</p>
<p>Comments and suggestions from CHE staff sent to the institution</p>	<p>2/17/15</p>	<p>Staff requested that the proposal be revised to include additional information about USC's program and to better address the concerns raised about program duplication; to provide the total credits hours required by the program; correct inconsistent information about the program's administration; to clarify a statement about certification so that it is clear that candidates must possess the MPH degree in order to take the optional certification exams; and to explain, if applicable, how the MPH program could help to address the rural health services crisis in the state. Staff also requested that information provided as a separate attachment be included in the proposal.</p>
<p>Revised Program Proposal Received</p>	<p>2/24/15</p>	<p>The revised proposal satisfactorily addressed all of the requested revisions.</p>

**Recommendation**

The staff recommends that the Committee on Academic Affairs and Licensing commend favorably to the Commission the program leading to the Master of Public Health in Biostatistics to be implemented in Fall 2015.

## NEW PROGRAM PROPOSAL

Name of Institution  
Medical University of South Carolina

Name of Program (include concentrations, options, and tracks)  
Master of Public Health in Biostatistics

### Program Designation

- Associate's Degree                       Master's Degree  
 Bachelor's Degree: 4 Year               Specialist  
 Bachelor's Degree: 5 Year               Doctoral Degree: Research/Scholarship (e.g., Ph.D. and DMA)  
 Doctoral Degree: Professional Practice (e.g., Ed.D., D.N.P., J.D., Pharm.D., and M.D.)

Does the program qualify for supplemental Palmetto Fellows and LIFE Scholarship awards?

- Yes  
 No

Proposed Date of Implementation  
Fall 2015

CIP Code  
26.1102

Delivery Site(s)  
Medical University of South Carolina

### Delivery Mode

- Traditional/face-to-face\*  
\*select if less than 50% online
- Distance Education  
 100% online  
 Blended (more than 50% online)  
 Other distance education

Program Contact Information (name, title, telephone number, and email address)  
Dr. John Vena  
Professor and Founding Chair, Department of Public Health Sciences  
843-876-8687  
vena@musc.edu

### Institutional Approvals and Dates of Approval

Department of Public Health Sciences MPH Curriculum Committee – 09/05/2014  
Department of Public Health Sciences – 10/06/2014  
College of Medicine Public Health Committee – 10/14/2014  
Deans Council – 10/20/2014  
Senior Leadership Council -- 11/18/2014  
MUSC Board of Trustees – 12/12/2014

## NEW PROGRAM PROPOSAL

### Background Information

State the nature and purpose of the proposed program, including target audience and centrality to institutional mission. (1500 characters)

MUSC proposes an MPH program in Biostatistics. This program is consistent with MUSC's mission as an academic health science center to preserve and optimize human life. The nation's transition to a new healthcare delivery model means that professionals with expertise in prevention and community-based research will be critical to ensuring adequately available healthcare for all and for improving the health of the nation. For MUSC to retain its standing as a premier academic health science center, it must develop expertise, research presence, and practice opportunities in population health and prevention. The proposed MPH in Biostatistics degree program will prepare the next generation of public health scientists and will support MUSC's development in this area.

Students in the MPH Biostatistics program will learn how to evaluate the status of the health of diverse populations and to develop sound plans and strategies to implement them to improve population health.

MUSC is uniquely positioned to deliver this degree program, as it is expected that a substantial portion of the students in this program will be current healthcare providers interested in expanding their knowledge in public health.

In compliance with professional accreditation standards, the curriculum includes core courses (relevant for all MPH degrees) and required and elective courses specifically in Biostatistics.

List the program objectives. (2000 characters)

The following Core Competencies/Objectives are driven by the Association of Schools of Public Health core competency guidelines. \*

- +Describe the roles biostatistics serves in the discipline of public health.
- +Describe the basic concepts of probability, random variation and commonly used statistical probability distributions.
- +Describe preferred methodological alternatives to commonly used statistical methods when assumptions are not met.
- +Distinguish among the different measurement scales and the implications for selection of statistical methods to be used based on these distinctions.
- +Apply descriptive techniques commonly used to summarize public health data.
- +Apply common statistical methods for inference.
- +Apply descriptive and inferential methodologies according to the type of study design for answering a particular research question.
- +Apply basic informatics techniques with vital statistics and public health records in the description of public health characteristics and in public health research and evaluation.
- +Interpret results of statistical analyses found in public health studies.
- +Develop written and oral presentations based on statistical analyses for both public health professionals and educated lay audiences.

Another objective is to help fill a growing need for qualified public health professionals to ensure adequate availability of healthcare for all as the nation transitions to a new healthcare delivery model.

Lastly, the program will provide graduates marketable skills for careers in public health in a wide range of settings, including public health agencies, local and regional health departments, hospitals and other healthcare organizations, government regulatory agencies, not-for-profit agencies, academic institutions, and industry (specifically health services and pharmaceutical industries, both of which are growth industries). Graduates with MPH training are equipped to enter careers in current and projected growth areas.

\*ASPH Education Committee. (August 2006). *Master's Degree in Public Health Core Competency Development Project*. <http://www.aspph.org/educate/models/mph-competency-model/>

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### Assessment of Need

Provide an assessment of the need for the program for the institution, the state, the region, and beyond, if applicable. (1500 characters)

MPH Biostatistics graduates are specifically trained in prevention techniques, as compared to a medical model of care, which focuses primarily on treatment. The MPH in Biostatistics degree program aligns with MUSC's mission and its interest in disease prevention, wellness, and population health.

The proposed MPH in Biostatistics will help fill a growing need for qualified public health professionals in the state and the nation, as shown in the following table. There is an expansion of college students with an interest in public health, as evidenced by the expansion of students in majors related to public health. For example, the College of Charleston developed a BS and BA degree in Public Health in 2012, and it already has 250 students enrolled with these declared majors. Finally, MPH programs at medical schools typically enroll a significant number of students from health professionals employed at their institution (e.g., physicians, nurses, allied health providers), as they appreciate that the next era of health care will place greater emphasis on wellness and population health.

There is another accredited and well-respected MPH training program in the state—the Arnold School of Public Health at the University of South Carolina. Per professional accreditation standards outlined by the Council on Education for Public Health (CEPH) for MPH programs, our MPH degree programs will duplicate, by necessity, some of the MPH programs offered at USC. The MPH in Biostatistics is one of the degrees that is also offered at USC.

The proposed MPH in Biostatistics is critical to the mission of MUSC, which is to preserve and optimize human life in South Carolina and beyond. The university provides an inter-professional environment for learning and discovery through education of healthcare professionals and biomedical scientists, research in the health sciences, and provision of comprehensive health care.

MUSC's standing as a top tier academic health science center will be threatened if it is unable to respond effectively to the challenges of a new era of healthcare and health education. Building a stronger presence in public health sciences—in clinical practice, research, and education—is, therefore, a high priority for the institution. Training the next generation of public health scientists in Biostatistics is an important part of this strategy.

Regarding the MPH Biostatistics degree, USC reports very low enrollment in their program, and thus, their concern that MUSC's program will be an unnecessary duplication is understandable. We posit that on balance, this risk is outweighed by factors that will likely make MUSC's MPH Biostatistics program particularly attractive. First, MUSC has substantial resources and infrastructure available to students interested in Biostatistics. Second, we have a very strong biomedical research enterprise (we are consistently in the top 20% of all universities in the nation and the top 25% among health science institutions in research expenditures and awards, respectively). Because of this, we are likely to attract MPH students especially interested in Biostatistics. Third, our location affords convenience for MUSC healthcare professionals and current MUSC students who would like to pursue training in public health and biostatistics.

There are additional reasons to offer a second MPH training site in the state:

1. Enhancing activity in public health sciences, including providing graduate degrees in public health, is critical to MUSC's mission and its future success
2. Workforce demand is increasing, nationally and in South Carolina, for professionals trained in public health sciences
3. Our neighbor states, Georgia and North Carolina, have multiple institutions accredited to offer MPH degrees (GA=8; NC=3; see <http://ceph.org/accredited/search/>)
4. The majority of MUSC's peer institutions and all of MUSC's aspirational peer institutions offer

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### MPH degrees

The MPH in Biostatistics is a professional degree and prepares students to lead public health efforts, in addition to developing their expertise in biostatistics and research methods. In addition, an advantage of offering this uniquely professional degree in Biostatistics is that some of the required courses for MPH already are in place. Currently, no MPH degree programs exist at MUSC.

In addition to complementing other degree programs at the institution, the MPH in Biostatistics can leverage valuable resources at MUSC. For example, MUSC has one of only 60 national Clinical and Translational Science Awards (CTSA). The CTSA provides a platform for work in a wide range of disciplines and approaches that inform public health science research and practice, including bioinformatics, community engaged research, research integrity and ethics, basic and applied research, and translational research. In addition, MUSC's Hollings Cancer Center has a Biostatistics Shared Core (BSR), which provides statistical support to basic scientists, clinical investigators, behavioral scientists, and epidemiologists involved in cancer research. Members of the BSR meet with cancer researchers to discuss study planning and statistical analysis of cancer treatment trials. Both the CTSA and the BSR provide rich experiential learning opportunities for MPH Biostatistics students.

Given the rural health services crisis in the state, it is important to note that the proposed MPH in Biostatistics will help to address this particular challenge by teaching about the factors that impact rural health. The Department of Public Health Sciences has recruited Amy B. Martin, DrPH as a dual appointed faculty member. Dr. Martin is an Associate Professor in the James B. College of Dental Medicine and Director of its Division of Population Health. She serves as the faculty expert on rural health systems and rural public health. In addition to her 10 years of academic research in the area, she is previously the Associate Director for the SC Office of Rural Health and Director of Education for Bamberg County Hospital. She is currently on the Appalachian Regional Commission's Health Policy Council and supports the Federal Office of Rural Health Policy and the White House Rural Commission's efforts to cultivate public-private partnerships for addressing rural health. Dr. Martin is advising the Department Chair on how rural priorities can be integrated into the MPH programs through research, curriculum, experiential learning opportunities, and community engagement.

Dr. Martin developed a course at USC, "Rural Health Perspectives," for which she won the National Delta Omega Award for Innovations in Public Health Curriculum. She will teach it simultaneously for both USC and MUSC campuses using an inter-professional, inter-institutional format. The course provides an overview on the analysis of issues as well as the demographic, economic, and political forces affecting health care delivery systems in rural America. Students examine the structure of federal and state public health programs that impact rural health. Course objectives include:

- 1) Identify key policy issues that set rural populations apart from urban populations.
- 2) Describe the national infrastructure for the funding, regulation, and administration of rural health program.
- 3) Describe the state infrastructure for facilitating rural health programs.
- 4) Identify the components of the rural health care system at the local community level.
- 5) Describe the opportunities and barriers for recruiting health care providers to rural areas.
- 6) Identify the safety net providers in rural communities and describe their contributions to the system of care.
- 7) Describe the access to care considerations for rural America.
- 8) Describe the issues faced by special populations in rural communities.

In addition to course work, Dr. Martin brings a vast network of community-based rural health partners with whom students can conduct experiential learning opportunities through special projects or practica.

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### **Employment Opportunities**

Is specific employment/workforce data available to support the proposed program?

Yes

No

If yes, complete the table and the component that follows the table on page 4. If no, complete the single narrative response component on page 5 beginning with "Provide supporting evidence."

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<b>Employment Opportunities</b>			
<b>Occupation</b>	<b>Expected Number of Jobs</b>	<b>Employment Projection</b>	<b>Data Source</b>
US: Statisticians	2012: 27,600/ 2022: 34,900	1,610 annual openings	Bureau of Labor Statistics
US: Health Technologists and Technicians, All Other	2012: 90,000/ 2022: 114,600	3,310 annual openings	Bureau of Labor Statistics
US: Medical Scientists, Except Epidemiologists	2012: 103,100/ 2022: 116,800	3,550 annual openings	Bureau of Labor Statistics
SC: Statisticians	2012: 270/ 2022: 310	20 annual openings	SC Emp. Sec. Commission
SC: Health Technologists and Technicians, All Other	2012: 860/ 2022: 1,050	40 annual openings	SC Emp. Sec. Commission
SC: Medical Scientists, Except Epidemiologists	2012: 160/ 2022: 240	10 annual openings	SC Emp. Sec. Commission

Provide additional information regarding anticipated employment opportunities for graduates. (1000 characters)

The proposed MPH in Biostatistics is a broad professional degree that will provide graduates marketable skills for careers in public health in a wide range of settings, including public health agencies, local and regional health departments, hospitals and other healthcare organizations, government regulatory agencies, not-for-profit agencies, academic institutions, and industry (specifically health services and pharmaceutical industries, both of which are growth industries). Graduates with MPH training are equipped to enter careers in current and projected growth areas.

MPH programs at medical schools typically enroll a significant number of students from health professionals employed at their institution (e.g., physicians, nurses, allied health professionals, dentists, and pharmacists). We believe there will be considerable demand from these professionals for additional training and credentials in public health so that they can enhance their understanding of how their practice can best meet the public health needs in the future. There is particularly high demand for public health physicians (MD/MPH) to fill executive positions in healthcare enterprise (Training Physicians for Public Health Careers. 2007. The National Academies Press). The fact that the program is located at MUSC, their place of employment, removes one of the primary barriers for enrollment.

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Provide supporting evidence of anticipated employment opportunities for graduates, including a statement that clearly articulates what the program prepares graduates to do, any documented citations that suggests a correlation between this program and future employment, and other relevant information. Please cite specific resources, as appropriate. (3000 characters)

**Note: Only complete this if the Employment Opportunities table and the section that follows the table on page 4 have not previously been completed.**

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Will the proposed program impact any existing degree programs and services at the institution (e.g., course offerings or enrollment)?

Yes

No

If yes, explain. (500 characters)

The proposed MPH provides a natural extension to graduates of public health undergraduate programs in the vicinity (e.g. CofC). Moreover, once an MPH program is developed at MUSC, dual degree programs could be developed such as BS/MPH (with CofC, for example), MD/MPH, PharmD/MPH, DPT/MPH (with other colleges at MUSC), etc. In addition, there is a need for medical graduate training opportunities for residents (n=700) and fellows especially in infectious disease, cardiology, and pediatrics.

MUSC has an MS in Biostatistics that will remain and the proposed MPH has a different focus in application of biostatistics in public health. Therefore, the MPH will have no expected impact on the MS degree.

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**List of Similar Programs in South Carolina**

Program Name	Institution	Similarities	Differences
MPH in Biostatistics	Arnold School of Public Health - USC	Core coursework	Electives, different student pool, targeted undergrads from the Lowcountry. Having both programs operating simultaneously will yield better research, training and public health outcomes than what will be achieved by each of the two schools independently. As explained below, while both MUSC's and USC's degree programs will offer core competencies in the public health sciences, MUSC's program will differ from USC's in three ways— (1) we will target our enrollment to a different pool of students, ours consisting largely of current healthcare professionals, current healthcare students, and individuals who are especially interested in applied public health research using our medical informatics, and unique clinical and translational research resources;(2) MUSC includes electives (see coursework table) that focus on inter-professional collaboration with healthcare providers and which address public health issues in the Lowcountry, especially Coastal Carolina; and (3) targeted undergraduate students are from the Lowcountry and Coastal South Carolina most of whom are within 50 miles radius from MUSC. This geographical proximity has an added advantage of reducing the cost of living for many of the students through short commute times and living with parents and family members.

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**Description of the Program**

Projected Enrollment						
Year	Fall		Spring		Summer	
	Headcount	Credit Hours	Headcount	Credit Hours	Headcount	Credit Hours
2015-16	5	45	5	45	5	45
2016-17	12	108	12	108	7	63
2017-18	14	126	14	126	7	63
2018-19	14	126	14	126	7	63
2019-20	14	126	14	126	7	63

Besides the general institutional admission requirements, are there any separate or additional admission requirements for the proposed program?

Yes

No

If yes, explain. (1000 characters)

Applicants must possess a Bachelor’s degree from an accredited institution and have a strong academic record (it is expected that a GPA of 3.0 on a 4.0 scale will be necessary to be competitive). The applicant will be required to provide official transcripts. Applicants may have a background in public health, social sciences, basic sciences, or physical sciences including computing, mathematics, and engineering. Applicants must submit scores on the quantitative and verbal portions of the GRE or MCAT. Three letters of recommendation from instructors or supervisors who have had close contact with the applicant during their undergraduate, graduate, clinical, or research training will be required. Applicants will include a personal statement describing their interest in pursuing a career in public health and a discussion of their interest in biostatistics.

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Are there any special articulation agreements for the proposed program?

Yes

No

If yes, identify. (1000 characters)

Although no formalized articulation agreements have been signed, initial discussions with the College of Charleston and USC have identified several potential avenues for collaboration. For example, it may be possible for College of Charleston students to take courses during their undergraduate training so that they can more expeditiously earn an MPH degree in Biostatistics. Drs. Vena and Ramakrishnan (MUSC) met with Dr. Lynne Ford (College of Charleston) in the Fall of 2014 to discuss these opportunities.

The DPHS currently has active and productive relationships with other institutions at international, national, state, and local levels. Faculty within our Department have working relationships (e.g. research, instruction, or intervention) with the University of South Carolina Arnold School of Public Health, The Health Services South Carolina Data Warehouse, SC Department of Health and Environmental Control, The Center for Disease Control and Prevention, Environmental Protection Agency, The University of Georgia, The University of North Carolina at Chapel Hill, The Citadel and the College of Charleston and other state and community Institutions. The Department of Public Health Sciences faculty are actively serving on state level initiatives in aging, physical activity, prevention, obesity prevention, cancer prevention and substance abuse prevention. Faculty also are serving professional organizations as editorial board members and reviewers for journals and federal organizations (e.g., CDC, NIH) as grant reviewers. These relationships will provide important opportunities for our students to engage in applied research and evaluation projects.

MUSC would seek to strengthen the current collaborative relationships with the College of Charleston, The Lowcountry Graduate Center, The Citadel, Clemson University, and USC's Arnold School of Public Health. Dr. Vena, DPHS Chair met with the Administrative Council of the USC Arnold School of Public Health and Dean Thomas Chandler on September 10, 2014 to discuss improving and expanding on collaborations in research, instruction and community engagement and service, including cooperation in course offerings, faculty visits, joint retreats, and serving as internship sites for each other's students. We will also reach out to USC-Beaufort to examine how graduates of its recently approved B.S. in Health Promotion may be served by our MPH programs. MUSC and USC will maintain their Memorandum of Understanding for a dual MD/MPH degree (established in 2004). Although this program has not been widely used by MUSC's MD students, primarily due to lack of interest in relocating in order to complete the MPH degree, it does offer the opportunity for interested medical students to complete an MPH degree at USC within one year (vs. two years as currently designed at MUSC), so this option will remain available. With the MPH degree, MUSC will be able to offer a dual degree on its own campus (e.g., MD/MPH, DMD/MPH; PharmD/MPH). Informal discussions with the College of Charleston and USC have identified several potential avenues for collaboration. For example, with the maturity of the MPH program, it may be possible for College of Charleston students to take courses during their undergraduate training so that they can complete the requirement of the MPH degree at an accelerated pace (thus reducing their cost). Dr. Vena and Dr. Ramakrishnan, DPHS Graduate Director met on September 12, 2014 with Dr. Lynne Ford and several representatives from College of Charleston to outline steps for expanding on collaborations in research, instruction and community engagement and service, including cooperation in faculty exchanges, and possible development of the BS/BA-MPH dual degree programs. Several faculty at the College of Charleston are poised to contribute elective courses in qualitative research methods, health communication (including communication campaigns, social media, international and intercultural communication), and social epidemiology.

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**Curriculum**

Select one of the following charts to complete: Curriculum by Year **or** Curriculum by Category

<b>Curriculum by Year</b>					
<b>Course Name</b>	<b>Credit Hours</b>	<b>Course Name</b>	<b>Credit Hours</b>	<b>Course Name</b>	<b>Credit Hours</b>
<b>Year 1</b>					
<b>Fall</b>		<b>Spring</b>		<b>Summer</b>	
Biostatistics Methods I	3	Biostatistics Methods II	3	Intro. to Health Systems and Policy	3
Theoretical Foundations of Statistics I	3	Principles of Epidemiology II	3	Intro. to Biomedical Information	3
Principles of Epidemiology I	3	Environmental Health Sciences	3	Spec. Topics in Categorical and Correlated Data Analysis	3
Statistical Computing I	1	Statistical Computing II	1		
Total Semester Hours	10	Total Semester Hours	10	Total Semester Hours	9
<b>Year 2</b>					
<b>Fall</b>		<b>Spring</b>		<b>Summer</b>	
Social and Behavioral Sciences	3	Internship	6		
Public Health Seminar	1	Capstone Project	3		
Elective Coursework	3				
Total Semester Hours	7	Total Semester Hours	9	Total Semester Hours	

Total Credit Hours Required                      45

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**Course Descriptions for New Courses**

<b>Course Name</b>	<b>Description</b>
BEHH 700 Social and Behavioral Health Sciences: Principles of Health Behavior and Health Promotion	This course introduces MPH students to the principles and practices of the social and behavioral sciences in public health.
BEHH 701 Introduction to Health Systems and Policy	Identify the main components and issues of the organization, financing, and delivery of health sciences within the various domains of public health in the US.
BIOS725 Statistical Computing I	Students learn to use the primary statistical software packages for data manipulation and analysis corresponding to topics covered in Biostatistics Methods I.
BIOS726 Statistical Computing II	Students learn to use the primary statistical software packages for data manipulation and analysis corresponding to topics covered in Biostatistics Methods II.
BIOS 728 Introduction to Biomedical Informatics	Expose students to high performance computing and communications, issues of copyright and database protection word-wide, principles of database design, genetic databases.
BIOS 729 Design and Analysis of Survey Data	Fundamental principles and methods of sampling populations, with primary attention given to simple random sampling, stratified sampling, and cluster sampling.
BIOS 789 Special Topics in categorical and correlated data analysis	Review of binary logistic and probit regression models; conditional and ordinal, multinomial response regression models.
PHS703 Field Placement in Public Health	MPH students complete a field placement in an appropriate public health setting.
PHS704 Capstone Project	All MPH students will participate in a culminating experience which is required for graduation from the program.

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**Faculty**

<b>Faculty and Administrative Personnel</b>				
<b>Rank</b>	<b>Full- or Part-time</b>	<b>Courses Taught or To be Taught, Including Term, Course Number &amp; Title, Credit Hours</b>	<b>Academic Degrees and Coursework Relevant to Courses Taught, Including Institution and Major</b>	<b>Other Qualifications and Comments (i.e., explain role and/or changes in assignment)</b>
Associate Professor 1	Full-Time	Fall Year 1: BIOS700(3), Biostatistics Method I	PhD, UNC, Epid	
Professor 1	Full-Time	Fall Year 1: BIOS706(3), Theoretical Foundations of Statistics I	PhD, Johns Hopkins, Biostat	
Associate Professor 2	Full-Time	Fall Year 1: EPID700(3), Principles of Epidemiology I	PhD, UNC, Epid	
Professor 2	Full-Time	Fall Year 1: BIOS725(1), Statistical Computing I	PhD, Johns Hopkins, Biostat	
Associate Professor 3	Full-Time	Spring Year 1: BIOS701(3), Biostatistics Methods II	PhD, UNC, Epid	
Assistant Professor 1	Full-Time	Spring Year 1: EPID701(3), Principles of Epidemiology II	PhD, Johns Hopkins, Biostat	
Assistant Professor 2	Full-Time	Spring Year 1: ENVH700(3), Environmental Health Sciences	PhD, Monash, Environmental Health	
Professor 3	Full-Time	Spring Year 1: BIOS726(1), Statistical Computing II	PhD, Johns Hopkins, Biostat	
Associate Professor 4	Full-Time	Summer Year 1: BEHH701(3), Introduction to Health Systems & Policy	PhD, UNC, Med. Geography	
Associate Professor 5	Full-Time	Summer Year 1: BIOS728(3), Introduction to Biomedical Informatics	PhD, Vanderbilt, Computer Science	
Professor 4	Full-Time	Fall Year 2: BIOS719(3), Bayesian Biostatistics	PhD, Univ of St. Andrews, Statistics	
Assistant Professor 3	Full-Time	Fall Year 2: BEHH700(3), Social & Behavioral Sciences	PhD, UNC, Behavioral Health	
Professor 5	Full-Time	Fall Year 2: DPHS789-03(1), Public Health Seminar	PhD, SUNY Buffalo, Epid	

Note: Individuals should be listed with program supervisor positions listed first. Identify any new faculty with an asterisk next to their rank.

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Total FTE needed to support the proposed program (i.e., the total FTE devoted just to the new program for all faculty, staff, and program administrators):

Faculty	1.4	Staff	0.2	Administration	0.0
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### Faculty /Administrative Personnel Changes

Provide a brief explanation of any additional institutional changes in faculty and/or administrative assignment that may result from implementing the proposed program. (1000 characters)

Ten percent of faculty FTE per course will be shifted from research and dedicated to teaching and mentoring students. A program coordinator (staff member) will be hired at 0.2 FTE.

### Library and Learning Resources

Identify current library/learning collections, resources, and services necessary to support the proposed program and any additional library resources needed. (1000 characters)

Current library resources are adequate to support the proposed program. The MUSC Library is a database and knowledge center, academic computing support unit, electronic education center, and leader in information planning. Pertinent online resources include the full catalog as well as major biomedical and health-related databases (e.g., MEDLINE, CINAHL, PsycINFO, SciFinder, and PubMed). The library employs over 20 staff, including more than 10 librarians, all with appropriate credentials to assist students, and each college at MUSC has a specific librarian assigned to serve its students.

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### Student Support Services

Identify academic support services needed for the proposed program and any additional estimated costs associated with these services. (500 characters)

Students in the proposed program will receive the same student support services as all other MUSC students. These include academic support services (including a Writing Center and the Center for Academic Excellence), health and wellness services; enrollment management services; and extracurricular student programs. There are no additional costs associated with these services.

### Physical Resources

Identify any new instructional equipment needed for the proposed program. (500 characters)

It is not anticipated that additional equipment will be necessary. The current computing and data storage equipment will be updated and replaced using the normal acquisition process. DPHS has Full time Information Technology (IT) Support personnel for support staff, faculty and student systems and software. DPHS provides Network access to internet resources, shared department network storage and services as well as access to High Performance Compute Clustering. DPHS IT staff provide software.

Will any extraordinary physical facilities be needed to support the proposed program?

Yes

No

Identify the physical facilities needed to support the program and the institution's plan for meeting the requirements, including new facilities or modifications to existing facilities. (1000 characters)

Given that anticipated annual enrollment in this program is relatively small, the current physical plant will be adequate to meet the educational needs of the students. The core classes taught to students in this program will be conducted in existing classrooms in Cannon Place, the Bioengineering building, and the Drug Discovery building as needed. These classrooms are all equipped with SmartBoard technology, high definition cameras, high-fidelity projection systems, and all necessary audiovisual equipment.

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**Financial Support**

<b>Estimated New Costs by Year</b>						
<b>Category</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>	<b>Total</b>
Program Administration	7,357	7,578	7,805	8,039	8,281	39,060
Faculty and Staff Salaries	0	0	0	0	0	0
Graduate Assistants	0	0	0	0	0	0
Equipment	0	0	0	0	0	0
Facilities	0	0	0	0	0	0
Supplies and Materials	750	773	796	820	844	3,982
Library Resources	0	0	0	0	0	0
Other*	13,875	8,935	9,203	9,479	9,764	51,257
<b>Total</b>	<b>21,982</b>	<b>17,286</b>	<b>17,804</b>	<b>18,338</b>	<b>18,889</b>	<b>94,299</b>
<b>Sources of Financing</b>						
<b>Category</b>	<b>1<sup>st</sup></b>	<b>2<sup>nd</sup></b>	<b>3<sup>rd</sup></b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup></b>	<b>Total</b>
Tuition Funding	117,030	249,147	289,730	298,410	307,370	1,261,687
Program-Specific Fees	7,425	15,345	17,325	17,325	17,325	74,745
State Funding (i.e., Special State Appropriation)*	0	0	0	0	0	0
Reallocation of Existing Funds*	0	0	0	0	0	0
Federal Funding*	0	0	0	0	0	0
Other Funding*	0	0	0	0	0	0
<b>Total</b>	<b>124,455</b>	<b>264,492</b>	<b>307,055</b>	<b>315,735</b>	<b>324,695</b>	<b>1,336,432</b>
<b>Net Total (i.e., Sources of Financing Minus Estimated New Costs)</b>	<b>102,473</b>	<b>247,206</b>	<b>289,251</b>	<b>297,397</b>	<b>305,806</b>	<b>1,242,133</b>

\*Provide an explanation for these costs and sources of financing in the budget justification.

## NEW PROGRAM PROPOSAL

### Budget Justification

Provide a brief explanation for the other new costs and any special sources of financing (state funding, reallocation of existing funds, federal funding, or other funding) identified in the Financial Support table. (1000 characters)

**Note: Institutions need to complete this budget justification *only* if any other new costs, state funding, reallocation of existing funds, federal funding, or other funding are included in the Financial Support table.**

Implementation of this program will not incur any unique costs or special state appropriations. Tuition and research grants to the faculty will be the primary source of funding. It is anticipated that this proposal will result in a total of \$22,000 of new expenses in year 1 for staff support, supplies and including \$14,000 in other expenses for recruitment and accreditation fees, with the necessary adjustments each year. Faculty salary costs are estimated to be approximately \$116,000 in year 1, \$168,000 in year 2, \$172,000 in year 3, \$177,000 in year 4, and \$183,000 in year 5.(10% FTE per course shifted from research to teaching).

Sources of financing are based on the assumption the mix of in-state to out-of-state students will be approximately 50/50, as has been the case in the College of Graduate Studies over the last three years.

Most of the necessary infrastructure exists now, so there will be few new costs directly associated with the program administration.

## NEW PROGRAM PROPOSAL

### Evaluation and Assessment

**Programmatic Assessment:** Provide an outline of how the proposed program will be evaluated, including any plans to track employment. Identify assessment tools or software used in the evaluation. Explain how assessment data will be used. (3000 characters)

Per university policy, each academic degree program engages in continuous quality improvement through annual self-assessment of performance on program outcomes (PO) and student learning outcomes (SLO). At least every three years, these data drive comprehensive plans for improvement.

PO 1: The program performs well on dashboard indices of quality

Measure 1: Percent of students who graduate within 5 semesters

Description of Measure: The proportion of students who complete the program in 5 semesters.

Criterion/Target: 75%

Measure 2: Percent of students who obtain full-time employment in a relevant field within one year of graduating.

Criterion/Target: 90 %

Individual responsible for reporting data: DPHS

Measure 3: The rate of first-time pass on the MPH certification exam and the biostatistics section of the MPH certification exam.

Criterion/Target: Meet or exceed the National Rate.

PO 2: The program performs well on dashboard indices of satisfaction.

Measure 1: Percent of graduating students who agreed that they would recommend the program to other prospective students.

Criterion/Target: 90 %

Individual responsible for reporting data: DPHS

Measure 2: Percent of graduating students who agreed that the program met their expectation.

Criterion/Target: 90 %

Individual responsible for reporting data: DPHS

**NEW PROGRAM PROPOSAL**

**Student Learning Assessment**

<b>Expected Student Learning Outcomes</b>	<b>Methods of/Criteria for Assessment</b>
Demonstrate a mastery of fundamentals of biostatistics	Measure 1: Percent of students demonstrating comprehensive knowledge by meeting or exceeding the portion of the Master's comprehensive exam grading rubric related to the learning outcome.
	Measure 2: Percent of students demonstrating a mastery of the basic concepts of statistics by meeting or exceeding the portion of the capstone grading rubric for biostatistics.
Demonstrate an understanding of core public health areas	Measure 1: Percent of students demonstrating comprehensive knowledge by meeting or exceeding the portion of the Master's comprehensive exam grading rubric related to the learning outcome.
	Measure 2: Percent of students demonstrating a mastery of the core concepts in areas of public health by meeting or exceeding the portion of the capstone grading rubric for public health.
Demonstrate competency in application of statistical software packages	Measure 1: Percent of students demonstrating software proficiency by meeting or exceeding the portion of the Master's comprehensive exam grading rubric related to the learning outcome.
	Measure 2: Percent of students demonstrating a proficiency in statistical software by meeting or exceeding that portion of the capstone grading rubric.

## NEW PROGRAM PROPOSAL

Will the proposed program seek program-specific accreditation?

Yes

No

If yes, provide the institution's plans to seek accreditation, including the expected timeline for accreditation. (500 characters)

<http://ceph.org/constituents/schools/considering/>

The review process for first-time public health program accreditation is approximately three years from the date of the application's acceptance to the date of the Council's official decision, though it may be abbreviated, in consultation with CEPH staff, if special circumstances exist. An accreditation unit that is not accredited by CEPH begins the accreditation review process by submitting an application. We plan to submit an application for review at the June 11-13, 2015 Council meeting. April 28, 2015: All materials due for the June 2015 Council on Education in Public Health meeting. A preliminary self-study would be due by June 2017 followed by a site visit estimated to be in Fall 2017 with anticipated accreditation decision in Spring 2018.

Will the proposed program lead to licensure or certification?

Yes

No

If yes, explain how the program will prepare students for licensure or certification. (500 characters)

The National Board of Public Health Examiners (NBPHE) offers the Certified in Public Health (CPH) credential as the only voluntary core credential for public health professionals.

<https://www.nbphe.org/aboutthecph.cfm>

Candidates must possess the MPH degree in order to take the optional certification exam. We will encourage and support graduates to take the exam.

## NEW PROGRAM PROPOSAL

### Teacher or School Professional Preparation Programs

Is the proposed program a teacher or school professional preparation program?

Yes

No

If yes, complete the following components.

Area of Certification

Please attach a document addressing the South Carolina Department of Education Requirements and SPA or Other National Specialized and/or Professional Association Standards.