


**CLEMSON UNIVERSITY**  
**College of Health, Education and Human Development**  
**REQUESTING TO OFFER A NEW DEGREE PROGRAM**  
**Doctor of Philosophy**  
**IN**  
**Applied Health Research and Evaluation**

Submitted to the South Carolina Commission on Higher Education  
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## Doctor of Philosophy in Applied Health Research and Evaluation

Academic Unit: College of Health, Education and Human Development

Name of Program: Applied Health Research and Evaluation

Name of Degree: Doctor of Philosophy (PhD)

CIP Code: 512212

Implementation Date: August 2013

Number of Credit Hours: 60 credits above the baccalaureate degree or 30 above the masters

Site: Clemson University campus, traditional delivery

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### **Justification of need for the proposed program:**

There is a nationally recognized need for researchers skilled in rigorously evaluating clinical and population health data and capable of working across traditional disciplinary boundaries. The National Institutes of Health has stated:

...some of the most significant research occurs at the interfaces between traditional research areas. This is even more likely to be true in the future because the solution to complex biological and health care problems will require experts and expertise in many different disciplines—and increasingly expertise in more than one field. Consequently, it is important to encourage such research. If this research is to be successful, individuals must be broadly trained so that they can understand and contribute to research that overlaps different fields.<sup>1</sup>

System changes already underway in the 21<sup>st</sup> century have been spurred by provisions of the *Affordable Care Act* of 2010 (ACA). Providers are being encouraged to join together to form "Accountable Care Organizations," through which doctors can better coordinate patient care and improve the quality of care, help prevent disease and illness, and reduce unnecessary hospital admissions. The future funding of American health care will involve a system that rewards the value gained from services (quality, safety, effectiveness), not merely the volume of services provided. However in order to achieve this goal there is a tremendous need for a workforce of individuals trained to work across traditional disciplines with health data of all types and to evaluate health programs and health outcomes.

The goal of the Applied Health Research and Evaluation PhD program is to prepare researchers to investigate a wide array of health issues and problems in order to foster the development of improved, evidence-based policies, guidelines, interventions and practices. The program will include trans-disciplinary faculty collaboration and research partnerships in the context of high quality graduate research instruction. Target audiences include both beginning professionals and established professionals who need to incorporate this new set of research skills.

The proposed doctoral program reflects the goals of Clemson University to serve the public good by focusing on one of the great challenges of the 21<sup>st</sup> century—the maintenance and improvement of population health. The doctoral program in Applied Health Research and Evaluation is designed to prepare graduates with the core competencies of applied health research, balancing instruction in the determinants and disparities of

population health with rigorous methodological training in several key disciplines supporting the practical application of research. Graduates will provide leadership in research that is essential to health-related programs in private and public sectors.

**Anticipated program demand and productivity:**

Current demand for persons with this type of training exceeds the supply of trained persons. Graduates of the proposed program will be needed not only in academic departments but also in large corporations, the health insurance industry, government agencies, health care organizations, and consulting firms. The demand for these students will increase as health care reform and evidence-based program requirements grow and economic opportunities emerge.

Job announcements from multiple sources between 2010 and 2011 were reviewed as part of program planning. Sources included the *Chronicle of Higher Education*, American Public Health Association's *Nations Health*, the Health Sciences Career list-serve, the Center for Disease Control website, and the Emory Health Careers website. Using a maximum 2 month time frame for any one source, we identified health-related, doctorally-prepared academic, government and private sector job announcements that included one or more of the following terms in their titles or descriptions: scientific evaluation director, health care data and analysis director, health analyst, applied research and evaluation, evaluation lead, research analyst, interdisciplinary statistician/epidemiologist, comparative effectiveness research, outcomes research, health services research, economic evaluation, health impact assessment, program effectiveness, and continuous quality improvement. Numerous jobs were posted by multiple organizations across the US, Canada and Australia. (sample announcements appended). In addition to a search of job announcements, we surveyed current graduate students enrolled at Clemson University about their interest in the program we are proposing. One hundred and forty-six students responded to the survey and 48 were either working or studying in a health-related area. **Forty-two percent** of the students working or studying in health reported that they would have been "very" or "extremely" interested in our PhD program if had been available after the completion of their last degree.

**Extent to which the proposed program duplicates existing programs in the state:**

At present, there are no doctoral programs within the state of South Carolina that reflect the historical land-grant responsibilities of teaching, research and public service while focusing specifically on providing researchers prepared to conduct interdisciplinary research and program evaluation with application to health services delivery. There are PhD programs in health-related fields at USC (Arnold School of Public Health), MUSC (Health and Rehabilitative Sciences, and Clemson (Health Care Genetics) but none of these programs focus on evaluation and applied health research. The doctoral program in Health Services Policy and Management at the Arnold School of Public Health is structured to prepare students to conduct health services research primarily in the areas of health policy and management. The program we are proposing is quite similar to other applied health research doctoral programs and evaluation programs outside the state of South Carolina at institutions within the land grant university tradition, such as the Ph.D. program in Health Services Research recently established at Texas A & M University. There are also similar programs in place at Johns Hopkins University, the University of Nebraska Medical College, and the University of Washington. Doctoral programs in applied health services research also exist outside the United States, particularly in the United Kingdom and Canada. Several PhD programs in evaluation research also exist around the country but not in the state of South Carolina (Florida State University – PhD Policy and Program Evaluation, George Washington University – PhD Program Evaluation, University of Pittsburg – PhD Public Health with program evaluation concentration).

**Relationship of the proposed program to existing programs at the proposing institution:**

The DPHS has academic and research relationships with multiple graduate programs at Clemson University. The department provides graduate instruction in health each semester for the MBA program. We also collaborate with Health Care Architecture to cross list courses for our students to take together. In addition, we

have recently partnered with faculty in the Math department to offer quantitative analysis courses for our new graduate certificate in Clinical and Health Services Research. The DPHS regularly provides graduate level instruction in multiple health content areas that attract graduate students from Food Science and Human Nutrition, Parks Recreation and Tourism, Psychology, Education Leadership, Nursing, Industrial Engineering, Computer Sciences and Health Care Architecture. The DPHS faculty is actively involved with masters and doctoral committees for students in the programs listed above. The faculty of the DPHS has productive research relationships with faculty within these disciplines as evidenced by the numerous publications, grants and graduate committees they have successfully completed with these partners. Students in our doctoral program will develop concentration areas in these and other disciplines at Clemson and likewise, we anticipate that our courses will supplement classes available to students in existing graduate programs. The DPHS also is actively involved with Clemson Extension and The Youth Learning Institute in program delivery and evaluation.

**Relationship of the proposed program to other institutions via interinstitutional Cooperation:**

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 Greenville Hospital System, AnMed Hospital, Oconee Hospital, the Medical University of South Carolina, the University of South Carolina Arnold School of Public Health, SC Department of Health and Environmental Control, Center for Disease Control and Prevention, Rand Corporation, ABT Associates, University of Queensland, and the nations of Australia, Vietnam, Taiwan, Costa Rica, and Kenya. These relationships will provide important opportunities for our PhD students to engage in applied research and evaluation projects.

**Brief Description of Curriculum:**

This program is built upon instruction emphasizing the application of theory and research to real problems in communities and healthcare settings in the region and beyond. Specifically, graduates will gain knowledge and develop skills to enhance oversight and accountability and assess effectiveness of programs and interventions, improve the effectiveness and efficiency of services, and ultimately, to participate in data-informed decision making to empower change in population health and healthcare practice. This trans-disciplinary doctoral program will train students to study how ecological factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect the quality and cost of health care, access to health care, and ultimately the health and well-being of the population.

Students will complete core courses offered in the DPHS related to health research theory, measures, design, implementation, analysis and evaluation. Students will develop expertise in a content area (concentration) of their choosing and with departmental approval. Students will identify 3-5 classes within or outside of the department to create their concentration. Concentrations can also be completed through internships at an appropriate research setting in public, private or government organizations. Students will also be required to participate in teaching effectiveness workshops, academic governance meetings (when appropriate), and manuscript or grant writing teams. Cross-campus linkages, which are natural for our department, will be expanded and strengthened through the doctoral program for fulfilling the University's goal of promoting interdisciplinary research across the eight specific programmatic emphasis areas.

**Total new costs associated with implementing the proposed program:**

The estimated new cost of the degree program year 1 is \$58,200 which includes two graduate students and administrative/student support staff (at 50%). All remaining costs of offering the degree program are being reallocated from existing resources. In year 4, two additional graduate students will be added. As the program grows, future health services faculty hires currently planned by Clemson University are anticipated to contribute to and complement the expansion in health related programs and research at the University.

**References Cited:**

<sup>1</sup> *Advancing The Nation's Health Needs.* (2005) Committee for Monitoring the Nation's Changing Needs for Biomedical, Behavioral, and Clinical Personnel, Board on Higher Education and Workforce, Policy and Global Affairs, National Research Council Of The National Academies, The National Academies Press, Washington, D.C.

**Appendix: Positions advertised in November 2011:**

<b>Universities</b>	<b>Government</b>	<b>Private Sector</b>
Scientific Evaluation Director, Simon Fraser University, BC (2011)	Public Health Analyst (Policy), (2 positions), CDC, Applied Research and Evaluation Branch (2011)	Research Associate, Group Health Research Institute (Seattle, WA) (2010)
Health Care Data and Analysis Core Director, Dartmouth College (2011)	Interdisciplinary Statistician/Epidemiologist, CDC, Surveillance and Field Investigation (2011)	Research Analyst, MANILA Consulting Group (McLean, VA) (2011)
Health Policy, Management and Behavior (2 tenure-track), University of NY (2011)	National Center for Health Statistics Postdoctoral Research Program (2-year appointment) (2011)	Prevention Advisory Services, CTS Global, Inc (Santo Domingo, Dominica Republic)
Community and Behavioral Health – Obesity (tenure track), University of Iowa (2011)	Applied Epidemiology Fellowship, CDC-ASPH (2011)	Research Scientist, New England Research Institute (Watertown, MA) (2011)
Research Officer Causal Eligibility, University of Western Sydney (Aus) (2011)	Evaluation Lead, Mississippi State Department of Health (2011)	Public Policy Project Manager, WellCare Health Plans, Inc. (Tampa, FL) (2011)
Public Health and Health Systems (2 tenure-track), University of Waterloo (Can) (2011)		
Health Services Management and Policy (tenure-track), Ohio State University (2011)		
Health Services Researcher, George Washington University (2011)		
Youth Alcohol, Tobacco and Drug Use (tenure-track), University of Michigan (2011)		
Research/Data Analyst (tenure-track) University of Hawaii Economic Research Organization (2011)		
Director of the Gund Institute for Ecological Economics, University of Vermont (2010)		
Research Associate, (tenure-track) University of New England (2011)		