THE UNIVERSITY OF NORTH CAROLINA
APPENDIX C: REQUEST FOR AUTHORIZATION TO ESTABLISH A NEW DEGREE PROGRAM
11/7/2011

Constituent Institution: East Carolina University
School/College: College of Allied Health Sciences   Department: Health Services and Information Management

Program Identification:

CIP Discipline Specialty Title: Medical Informatics, Health Information Management

CIP Discipline Specialty Code: 51.2706   Level (B, M, I, Prof, D):   M

Exact Title of the Proposed Degree: Master of Science in Health Informatics and Information Management

Exact Degree Abbreviation (e.g., BA, BS, MA, MS, EdD, PhD):   MS

Does the proposed program constitute a substantive change as defined by SACS?   Yes   No   X

   a) Is it at a more advanced level than those previously authorized?   Yes   No   X

   b) Is the proposed program in a new discipline division?   Yes   No   X

Proposed date to establish degree program (allow at least 3-6 months for proposal review):   *Month:*   *Year:*
                                                              August   2013

Do you plan to offer the proposed program away from campus *during the first year of operation?*   Yes   *X* No

If yes, complete the form to be used to request establishment of a distance education program and submit it along with this request.

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EXECUTIVE SUMMARY

The master of science in health informatics and information management (MS HIIM) is a trans-disciplinary academic program at the intersection of the disciplines of computer and information science and technology, health services administration and management, and more importantly the dynamics between the two.

The program is designed to prepare individuals to be informaticians as well as information management professionals who can work proficiently with clinicians and health services administrators to develop clear and effective health information strategies for their health care organizations, as well as carry out these strategies using a variety of applications. The proposed program is a response to AHIMA's whitepaper: Vision 2016, *A Blueprint for Quality Education in Health Information Management*, which explicitly stipulates that the "transformation of health information management to a graduate level profession by 2016" is one of its key priorities. Concurrently, the health care environment has been moving toward the adoption of information technologies such as Electronic Health Records (EHR) to manage health care data. As a result, federal, state, and regional projections show a real need for additional HIIM professionals with advanced knowledge and training in the principles of health informatics and information management. The establishment of the proposed MS in HIIM at ECU is designed to help meet the needs of workforce training.

In addition to learning the technical aspects of health care data and information management, students will learn how to develop strong management skills crucial for planning, designing, implementing and evaluating a variety of system-wide health information systems including electronic health records, clinical decision support systems as well as computerized provider order entry systems. The proposed master of science in health informatics and information management prepares individuals for managerial, supervisory, executive, as well as other leadership positions in health information systems.

The program will:
1. prepare more advanced health informatics and health information management professionals to meet the expanding needs of North Carolina.
2. train health informatics and health information management professionals competent in the knowledge-based, data driven health care environment.
3. develop leaders capable of leading the implementation of health information technologies to add value to patient care.
4. provide continuing education opportunities for practicing health care providers and administrators, or information technology professionals.

It is expected that students who enter the MS HIIM will have completed an undergraduate degree in a health sciences or computer and information sciences, with at least one programming and at least one statistics courses in the previous five years. The MS HIIM requires at least 48 hours, including 36 hours of core courses and 12 hours of concentration courses in one of the three options: non-thesis, thesis or Registered Health Information Administrator (RHIA). The curriculum is designed based on standards

published by the Commission on Accreditation for Health Informatics and Information Management (CAHIIM).

The MS HIIM program builds on existing faculty strengths and courses in the College of Allied Health Sciences, College of Business, and College of Technology and Computer Science at East Carolina University. 60% of the courses (12) are existing courses in our health informatics and health care administration certificate programs. The MS HIIM is to replace the Bachelor of Science degree in health information management at ECU. Therefore, the program will be able to be operational with limited additional resources.

There are other master's programs in health informatics, nursing informatics or clinical informatics available in the state. However, they are not geographically near the proposed program at ECU. Additionally the MS HIIM program at ECU will be the only one offering an RHIA option and having its entire curriculum available online among all UNC constituent institutions. The strong growth of our online health informatics certificate has indicated a need of such training in health informatics and information management. The program will seek accreditation from CAHIIM once it is established.

I. DESCRIPTION OF THE PROGRAM

A. Describe the proposed degree program (i.e., its nature, scope, and intended audience)

The master of science in health informatics and information management (MS HIIM) is a trans-disciplinary academic program at the intersection of the disciplines of computer and information science and technology, health services administration and management, and more importantly the dynamics between the two. The program is designed to prepare individuals to become informaticians or information management professionals who can work proficiently with clinicians and health services administrators to develop clear and effective health information strategies for their health care organizations, as well as carry out these strategies using a variety of applications. In addition to learning the technical aspects of health care data and information management, students will learn how to develop strong management skills crucial for planning, designing, implementing and evaluating a variety of system-wide health information systems including electronic health records, clinical decision support systems as well as computerized provider order entry systems. The proposed MS in HIIM prepares individuals for managerial, supervisory, executive, as well as other leadership positions in health information systems.

A clear strategy of health informatics and information management helps health care organizations ensure secure access to information, enhance decision making, maintain financial balance, and improve the quality of patient care and patient outcomes. Professionals in health informatics and information management are skilled in collecting, managing, interpreting and analyzing patient data. Additionally, they receive the training necessary to assume leadership positions related to these functions. They support and interact with all levels of an organization, clinical, financial, and administrative, that employ patient data in decision making at all levels. Health information managers have traditionally worked with paper-based data systems. Moreover, they typically worked in record systems contained within a single organization. However, the health care environment is rapidly adopting information technology to manage health care data across entire regions with dozens of health care organizations. Therefore, these health information managers must advance their training to understand and apply principles of health informatics in order to be effective health care data/information managers.

The proposed MS in health informatics and information management (MS HIIM) aims to fill this need of advanced training. The focus of the MS in HIIM is not to train students as computer technicians or programmers, but, rather, to educate and train them to understand the strengths and weaknesses of computer technology and information systems. Furthermore, students in the MS HIIM program will learn how to implement and manage information systems in a dynamic and complex health care environment.

The program will:

1. Prepare more advanced health informatics and health information management professionals to meet the expanding needs of North Carolina.
2. Train health informatics and health information management professionals competent in the knowledge-based, data driven health care environment.
3. Develop leaders capable of leading the implementation of health information technologies to add value to patient care.
4. Provide continuing education opportunities for practicing health care providers and administrators, or information technology professionals.

The degree program will be offered both on campus and through distance education; therefore, it will be delivered in two modes: (a) face-to-face and (b) online. Delivering the curriculum in both modes meets the needs of distinct learning styles and life situations of the prospective students between traditional college graduates and working adults. Faculty in the department are experienced in utilizing blended learning methodologies in order to standardize and ensure that the learning experience is equally effective for both on campus face to face and distance online students. All of our current undergraduate and graduate certificate programs are delivered in both modes concurrently to both on campus and distance education students. ECU has established information technology infrastructure (e.g., Blackboard learning management system, MediaSite in classroom video recording) to ensure the comparable learning experiences between the two student groups. Therefore, the department is well prepared to provide educational opportunities in both modes. We have graduated on-campus students since 1968. In addition, we have been successfully delivering courses online since 2000 for the health information management (HIM) undergraduate program and since 2003 for the health services management (HSM) undergraduate program.

We expect the students in the MS HIIM program at ECU to come from five different sources:

1. **Professionals holding at least an undergraduate degree in health sciences or computer and information technologies from outside East Carolina University.** Unemployed, underemployed, or working professionals with these degrees may seek upgrades to their skills and knowledge and thus expand their job marketability by receiving a master's degree in health informatics and information management.
2. **Individuals from outside East Carolina University desiring entry-level positions in health information management.** Since 1968, the BS with a major in HIM (formerly medical records administration) has been offered at East Carolina University. Despite the program's rigor, consistent student interest in the major has resulted in an entering cohort between 15 to 20 students. Since the initiation of the online HIM degree in 2005, entering cohorts have averaged 25 students. The graduates of the program are eligible to take the national Registered Health Information Administrator (RHIA) certification exam. The undergraduate HIM program will be terminated once the master's program is established; therefore, for those students who desire to get the RHIA credential, the master's program, particularly the RHIA option, will be available for that purpose. Please note we will continue to offer the undergraduate HSM program that enrolls more than 65 students annually.

3. **Individuals in the post-baccalaureate health informatics certificate at East Carolina University**. Since fall 2008, the HSIM department has offered a graduate certificate in health informatics and since then has received more than 150 inquiries from prospective students interested in pursuing this option for graduate study. Currently 41 students are registered in the certificate program and many of them are interested in pursuing further study in this field. A master's degree program in HIIM would be a natural complement for the certificate graduates. The certificate program graduates will be able to transfer 15 credit hours from the certificate into the MS; thus, a certain number of students can begin by taking core courses in the certificate and then opt to transfer these credit hours into the master's degree program.

4. **Baccalaureate health services management (HSM) graduates at East Carolina University**. The Department also has an undergraduate program in HSM that graduates approximately 60-70 students annually. Given the transition of health care to an electronic environment, understanding information technology and information systems becomes crucially important for the graduates to be well rounded in their managerial practice. These graduates may desire the department's internal educational progression.

5. **Baccalaureate graduates in information technology and systems (IT&S) at East Carolina University**. These graduates may desire advanced education in health care that would expand their career possibilities. The department is currently collaborating with the Department of Technology Systems to offer a BS in information technology with a concentration in healthcare information technology. The graduates from the program will also be recruited to the MS HIIM program.

All five streams of potential students for the proposed MS in HIIM will be required to meet the same pre-requisites of admission into the program.

B. List the educational objectives of the program.

Graduates of the program will be able to:

1) plan, develop, and manage health information systems consistent with the clinical, fiscal, administrative, ethical, and legal requirements of health care institutions.
2) analyze, design, implement, and evaluate health information systems.
3) understand and apply principles of management and business functions to a variety of health care settings including private and institutional practice.
4) interact and communicate with other health care professionals, administrators, and staff to provide health care data for patient care, research, quality improvement, strategic planning, reimbursement, and related managerial functions.
5) evaluate the strategic and operational relevance and robustness of clinical information resources of the health care industry and of the public health sector.

6) support research that advances the body of knowledge and standards associated with the management of health information and information systems in the electronic health environment.

7) <mark>Achieve first time pass rates greater than the national average for the RHIA exam</mark> in order to become credentialed as a registered health information administrator (RHIA) by the American Health Information Management Association (AHIMA).

C. Describe the relationship of the program to other programs currently offered at the proposing institution, including the common use of: 1) courses, 2) faculty, 3) facilities, and 4) other resources.

1. Courses

The proposed master's degree in health informatics and information management (MS HIIM) is an interdisciplinary program at the intersection of the disciplines of information science, computer science, health care, and management. It will take advantage of existing strengths in the HSIM department. The department offers two graduate certificate programs (health care administration and health informatics). Therefore, the majority of the cognate courses for the master's degree in health informatics and information management (HIIM) curriculum will be modeled on courses offered by the two existing graduate certificate programs. In addition, core courses in biostatistics, software engineering and management of information systems will be included and taught by faculty from the relevant departments.

2. Faculty

The MS HIIM core faculty will comprise the graduate faculty members in the HSIM department whose expertise is relevant to the degrees and experiences. Because HSIM departmental faculty already have experience offering coursework that meets our professional accrediting body's standards for the RHIA certification exam, they will be able to design, develop and deliver the graduate level courses that continue to meet these standards. All but one faculty members have either associate or full graduate faculty status at ECU. Regarded industry experts with proper credentials will also be recruited to serve as adjunct faculty. In addition, any member of the graduate faculty at ECU with proper credentials and expertise and interest to teach selected courses in HIIM will be recruited as adjunct faculty to teach appropriate courses.

It should be noted that academic year 2007-2008 was the first time in seven years that the department's full-time faculty complement was complete. Since academic year 2001-2002, the department has been in a "building mode" preparing for the delivery of its baccalaureate degree in health services management, its post-baccalaureate certificates in health care administration and health informatics, and its proposed MS in HIIM.

3. Facilities

The MS HIIM will employ existing facilities from the College of Allied Health Sciences. The current facilities are sufficient for the proposed MS HIIM.

4. Other Resources

N/A

D. Describe any explorations of collaborative offering of this program and the results of those explorations.

At the time (2008) ECU began planning to offer this program, no other institutions at UNC offered a master degree program in health informatics and information management. ECU would be the only institution in the UNC constituent institutions to offer a health informatics and information management curriculum that includes the eligibility option to take the RHIA certification exam.

Although the program is administered in the HSIM department, three other departments (Biostatistics, Management of Information System and Computer Science) have provided written support to share their expertise to teach some of the courses in the curriculum.

II. JUSTIFICATION FOR THE PROGRAM (Narrative Statement)

A. Describe the proposed program as it relates to the following:

1. Institutional Mission and Strategic Plan and response to UNC Tomorrow

The proposed Master of Science degree in health informatics and information management (MS HIIM) will provide trans-disciplinary education in health care and information technologies and systems. It aligns with the strategic plans of the university and the college. The mission of East Carolina University (ECU) is to serve as a national model for public service and regional transformation. Thus, ECU offers undergraduate and graduate programs that prepare students to compete and succeed in the 21st century and in the global economy. The proposed degree prepares graduates to plan, design, implement, and evaluate health information technologies and systems of the 21st century, in collaboration with fellow professionals with backgrounds either in health care or in information technologies and systems. Moreover, the proposed degree addresses a specific aspect of ECU's mission: "Saving lives, curing diseases, and positively transforming health and health care" and addresses a component of ECU's Strategic Directions: "ECU will save lives, cure diseases, and positively transform the quality of health care for the region and state." Health informatics and information management enhances the ability of health care systems to deliver quality health data and information where and when practitioners need them, thus supporting this vision and mission.

ECU is committed to producing more and better physicians, dentists, nurses and allied health professionals to meet the expanding needs of North Carolina and beyond; lead in the research and development of health care technologies and evidence-based therapies; and improve health care access and outcomes. The proposed master's degree program in HIIM will provide

education and training in the tools and principles necessary for sharing data and information among the fields of biotechnology, medicine, and health care. For example, this includes the development and use of decision support tools for improving decision making in health care delivery. Graduates will help design health information systems that make health data/information available to appropriate users while also ensuring its privacy and confidentiality. They will be advocates for high quality health information as the cornerstone for improvements in health care delivery. In addition, the program will meet the RHIA certification requirements as set forth by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) of the American Health Information Management Association (AHIMA).

The university is further committed to producing highly skilled professionals in education and health care and to developing leaders for the business, nonprofit, and government sectors in order to address the needs and challenges of the region. In health care, for example, innovations in information technology are transforming how health care data is collected and utilized. The proposed master's degree in HIIM offered by HSIM will target the individual who is looking for formal training in health informatics and information management; this can include practicing professionals from the fields of health care, information technology, and individuals who come from other disciplines and possess a variety of educational backgrounds. Graduates of this program will be information specialists fluent in the application of health informatics and information management principles towards the improvement of health and wellness in North Carolina. As a result of the trans-disciplinary training they will receive, it is expected that they will join the workforce and that some will go on to assume leadership roles in industry, academia, and government.

ECU is also committed to increasing access to its educational programs including academic courses, degree programs, and certificate programs, for traditional students, non-traditional students and lifelong learners. The proposed MS in HIIM will offer three different tracks of study: an RHIA track for individuals who are interested in fulfilling the curricular requirements of earning the RHIA credential, an non-thesis non-RHIA track and the other thesis non-RHIA track for others who do not seek the RHIA credential. All three tracks should appeal to traditional as well as non-traditional learners, including career changers. For example, the MS in HIIM should attract practicing health care and IT professionals who want to acquire skills in health informatics and information management. Furthermore, the proposed MS in HIIM will be offered both face-to-face and online. There will be built-in online components that allow the current workforce to upgrade their knowledge without having to curtail their employment.

2. Student Demand

We began to offer a 15-credit-hour graduate certificate program in Fall 2009 with support of a grant from UNC General Administration. The program is registered with UNC Portal for Distance Education students. Although we do not actively market the program, we have received more than 100 inquiries about the program. It is worth noting that many of the inquiries are about

whether the certificate program would allow them to be eligible for the RHIA exam. Currently (May 31, 2011) there are 41 students registered in the graduate certificate programs at ECU. All students are distance education students who take courses online. In an informal survey conducted in one of the spring 2011 courses, most of the enrolled students expressed strong interest in continuing their education via a master's degree program in health informatics. The students in the certificate program include computer and information technology professionals, current health information administrators, and other health professionals. The student population matches our expectations of the potential distribution of students in the MS HIIM program.

The HIM program has been an undergraduate level program since 1968. Since that time, there has been consistent student interest in the health information management major such that the entering class each year has averaged about 15-20 students. Since the initiation of the on-line baccalaureate HIM degree in 2005, entering class sizes have averaged 25 students. We expect to maintain this enrollment pattern for the first five years after the baccalaureate program in health information management is transitioned to the MS in HIIM. We will be the only graduate program in the state of North Carolina whose graduates will be eligible to take the RHIA exam. There will be five potential enrollment streams for the proposed master's degree program: individuals desiring entry-level positions in health information administration (former BS students), individuals in the post-baccalaureate certificate in health informatics who now want a graduate degree, baccalaureate graduates in health services management, baccalaureate graduates in information technology, and career changers with baccalaureate degrees.

Sixty-eight percent of respondents to an e-mail survey sent out in October 2008 to the membership of NCHIMA (state association of health information management professionals) expressed an interest in pursuing a master's degree program if it were available at ECU. Twenty-five percent of this group conditioned their interest in the program on being able to take courses online. Moreover, 30% of respondents to the survey of recent HSM graduates indicated that they were strongly interested in earning a master's degree in health informatics and information management from ECU, and stipulated that they required an online option. Since fall 2008, the HSIM department has offered a graduate certificate in health informatics and since then has received 61 inquiries from prospective students interested in pursuing this option for graduate study. A master's degree program in HIIM would be a natural progression for the certificate graduates. Therefore, we believe that there will be no difficulty in attracting quality students. We expect that these 5 potential enrollment streams can support an increase of 2-3 full time and 2 part time students (3-4 students) per year until we reach a maximum of 26.5 students admitted in the fifth year.

The Council of Graduate Schools indicates that the number of nontraditional graduate students has risen dramatically and projects this trend to continue. Generally, many of the potential non-traditional graduate students are working professionals seeking a career-change. For example, at the College of St. Scholastica, where a master's degree in HIM has been offered since 1999, approximately one-third of its class is comprised of HIM professionals seeking additional education to advance their careers. On the other hand, the rest of their master's level students

come from other fields such as secondary education, computer technology and other health professions looking to change careers.

Many career-changers desire Internet-based, asynchronous delivery because they are place-bound either by current jobs or family responsibilities. Thus, the proposed degree also meets the needs of society by being available in two modes of delivery: (a) face-to-face and (b) Internet. The Department has delivered course work and degrees via the Internet since 2000 for the HIM program and since 2003 for the HSM program.

3. **Societal Need. (Note: For graduate, first-professional, and baccalaureate-professional programs, cite manpower needs in North Carolina and elsewhere.)**

With the widespread adoption and implementation of Electronic Health Record systems and focus on quality and value in health care, a societal need exists for HIIM professionals who understand both the health care environment and information technologies and systems at the national state, and regional, levels.

At the national level, the Bureau of Labor Statistics (BLS) projects a growth rate of 16% for "Medical and Health Services Managers" through 2016 (http://www.bls.gov/oco/ocos014.htm). Separating out the role of health information managers in this section, the BLS states that "Health information managers are responsible for the maintenance and security of all patient records." According to their analysis of the HIMSS Analytics™ database, Hersh and Wright forecast that approximately 50,000 informatics professionals are needed by 2016 in order to meet the predicted growth in the adoption of electronic health care information systems (http://www.billhersh.info/hit-workforce-hersh.pdf).

Recent regulations enacted by the Federal Government require that all health care providers maintain electronic patient records and that these records be secure. Electronic health information will be used in a meaningful way to patient centered coordinated quality health care. As a result, health information managers must keep current with the latest computer and software technology and with legislative requirements. In addition, as patient data become more frequently used for quality management and in medical research, health information managers ensure that databases are complete, accurate, and available only to authorized personnel. They also need to be skillful in change management in a complex environment like health care.

Events at the national level are further driving the need for HIIM graduates. The American Reinvestment and Recovery Act (ARRA) of 2009 included $19 billion to promote the adoption and use of health information technologies, particularly electronic health records. Federal efforts to promote the adoption of EHRs include payment incentives that are tied to their meaningful use. For example, the Obama administration's emphasis on the national adoption of electronic health records has resulted in the allocation of $110M for Health IT initiatives in the latest proposed federal budget (http://bit.ly/cUDo9S). The deployment of electronic health records by

physicians and hospitals in the U.S. will require the expertise of professionals trained in health informatics, information management, and electronic health record implementation.

Using a portion of the ARRA funds, The Office of National Coordinator for Health Information Technology (ONCHIT) has funded 62 Regional Extension Centers (RECs) nationwide with the mission to assist primary care providers to adopt Electronic Health Records. North Carolina Area Health Education Centers (AHEC) is the only REC grantee in NC to support statewide EHR adoption. Professionals are needed and will continue to be needed in order to support the operations of REC as well as individual providers. A notable anecdote is that two Quality Improvement Specialists at eastern AHEC REC are graduates from the ECU HIM program. We expect that REC sites will become valuable sites where our students can be placed for internship and employment.

Moreover, in October 2009, Dr. David Blumenthal, then the National Coordinator for Health Information Technology, cited the vital role that HIIM professionals will play in leading the way toward the successful adoption of EHR systems at AHIMA Annual Convention. Dr. Blumenthal explained that health informatics and information management professionals are well-positioned to play this role because they are trained to focus on the usability of systems rather than on the technology itself. He emphasized that such a perspective is necessary for ensuring the successful migration to EHR systems (http://bit.ly/iYklPS).

Internally, within the discipline at the national level, there is a progression to graduate education for certification. AHIMA recognizes that the drive to adopt EHR systems requires HIIM professionals who can plan, design, and analyze EHRs across interlocking and partnering national health care enterprises, state agencies, regional health information exchanges, and federal agencies. In 2007, AHIMA published *Vision 2016: A Blueprint for Quality Education in Health Information Management*, which explicitly stipulated that the "transformation of HIM to a graduate level profession by 2016" is one of its three key priorities. Concomitantly, the accrediting organization for degree-granting programs in the discipline, the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), is in the process of adopting accreditation standards for graduate health informatics programs (http://cahiim.org/initiatives.html) and has adopted competencies and standards for graduate health information management programs (http://cahiim.org/applyaccredgrad.html). Eligibility to sit for the national registration examination is dependent upon being a graduate of an accredited program.

At the state level, there is a demand that health information be used to improve health and wellness. For example, the proposed degree addresses a recommendation of UNC Tomorrow – 4.5.3 "UNC should lead in utilizing health information to improve health and wellness in North Carolina." The mission statement of the North Carolina Healthcare Information and Communications Alliance (NCHICA) echoes this concept as this consortium is dedicated to *"improving health and care in North Carolina by accelerating the adoption of information technology and enabling policies."* The North Carolina Occupational Trends of the Labor Market

Information (LMI) Division Employment Security Commission projects that "Medical and Health Services Managers" will show an annual positive change of 2.41% (http://bit.ly/ijz0G1). Please note that HIIM professionals are not separately tracked). A recent beta release of the North Carolina Allied Health Job Vacancy Report showed there are 152 Health Information Management positions currently available in North Carolina with a significant increase expected in the near future (http://bit.ly/kWYeVP).

At the regional level, health care organizations such as the University Health Systems of Eastern Carolina; Home Health & Hospice Care (3HC); Nash Health Care Systems; Lenoir Memorial Hospital, East Carolina Neurology; are in the process of adopting electronic health record (EHR) systems. Moreover, local health care organizations, such as University Health Systems and Craven Regional Hospital Center, have begun to express a preference for HIIM professionals prepared at the graduate level.

The department held an "Informatics in Health Care" symposium in conjunction with Eastern Area Health Education Center on Nov. 20, 2008. In addition to departmental faculty, principal participants included the Director of Health Sciences Library, the executive director of NCHICA, and the director of education for AHIMA. The intent of the symposium was to examine the importance of health informatics in a changing health care environment, profile national initiatives in health informatics & information management (HIIM) in Higher Education, and discuss the core subject matter that comprises a health informatics curriculum. About half of the 45 attendees remained after a panel discussion in order to ask questions about graduate study in health informatics and information management in general and, more specifically, about the department's proposed program at ECU. As a result of this symposium, we believe that there is a target group in eastern North Carolina interested in pursuing an MS in HIIM.

In summary, ECU can be part of the regional, state, and national movement to educate a top and middle management workforce in the health care sector by offering an MS in HIIM.

4. **Impact on existing undergraduate and/or graduate academic programs at ECU. (e.g., Will the proposed program strengthen other programs? Will it stretch existing resources? How many of your programs at this level currently fail to meet Board of Governors' productivity criteria? Is there a danger of proliferation of low-productivity degree programs at the institution?)**

1) Will the proposed program strengthen other programs?

Implementing the proposed program will result in the termination of the baccalaureate degree in health information management (HIM); however, the department (unit) has another baccalaureate degree - health services management (HSM) and two graduate certificate programs (health informatics and health care administration). The proposed program will be a potential educational progression for the graduates from the health services management baccalaureate

program. It will be a potential graduate degree for the health informatics and health care administration certificate students.

Informatics is the scientific field that studies the acquisition, storage, management and analysis of data and information for the purpose of enhancing outcome and process. As a field with strong emphasis on applications, it has a strong potential to engaging other clinical departments in collaboration in education and research. Courses (e.g. Health Informatics) in the health informatics certificate program have already been listed as required or elective courses for students in the MPH program at ECU. The College of Nursing has shown a strong interest in establishing an educational program to train future workforce in nursing informatics. The upcoming School of Dental Medicine at ECU is showing strong commitment to integrating informatics in their education and research. A strategic planning workforce subgroup, led by Dr. Dorothy Spencer at the Laupus Health Sciences Library, will start meeting soon to discuss the strategic plan of integrating informatics education and research in health sciences division at ECU. The collaboration will strengthen other programs at ECU, particularly those in health sciences division.

2) Will it stretch existing resources?

The proposed MS HIIM program will not stretch existing resources because the current HIM baccalaureate program will be discontinued once the master's program is in place. Therefore, existing space and equipment that are assigned to the HSIM unit will be sufficient. FTEs released by the discontinuation of the HIM undergraduate program will support delivering curriculum in the MS HIIM program. The proposed MS in HIIM will utilize classrooms in the Health Sciences Building (HSB), including the HSIM Lab (HSB 4405). These are the same instructional facilities currently used for the baccalaureate HIM program. The number of students will be similar between the existing BS HIM and MS HIIM programs, so no additional classroom spaces are needed.

3) How many of your programs at this level currently fail to meet Board of Governors' productivity criteria? Is there a danger of proliferation of low-productivity degree programs at the institution?

While ECU included reports in fall 2010 for 11 master's degree programs identified by UNC for low productivity review, none of those master's programs were housed in the College of Allied Health Sciences. Projected enrollment in this proposed program (20 full time, 13 part time in five years) is expected to far exceed productivity standards (15 or more).

B. Discuss potential program duplication and program competitiveness.

1. **Identify similar programs offered elsewhere in North Carolina. Indicate the location and distance from the proposing institution. Include a) public and b) private institutions of higher education**

Table 1 lists the current similar programs being offered in both public and private institutions in the state of North Carolina as well as comparisons between the programs.

Table 1 Similar Programs Offered Elsewhere in North Carolina

University	Department	Degrees	Location	Distance to the proposing program	RHIA option	Online	Comments
Proposed Program: East Carolina University	HSIM	MS in HIIM	Greenville	0 miles	Yes	Yes	Focus on social and organizational issue
Duke University	Center for Health Informatics & Fuqua School of Business	Master of Management in Clinical Informatics	Durham	110 miles	No	No	Prepares MDs, nurses & HC administrators. Concentrates on the business aspect of health care.
	Division of Clinical Informatics in the Department of Family Medicine	Fellowship training	Durham	110 miles	No	No	Non-degree training program.
	Nursing	Nursing Informatics	Durham	110 miles	No	No	Limited to BSN students
UNC–CH	School of Nursing	MS in Health Care Systems	Chapel Hill	111 miles	No	No	Informatics track; limited to BSN students
UNC-Charlotte	College of Computing and Informatics	Professional science master in health informatics	Charlotte	241 miles	No	No	Targets graduates of life science disciplines and computer sciences. Does not have an RHIA option.

Public Institutions: The School of Nursing at University of North Carolina Chapel Hill has a master's program in health care systems in which informatics is one of the tracks. The University

of North Carolina at Charlotte is preparing a professional science master's in health informatics and presented their proposal to UNC-GA November 2010. The professional science master's degree (PSM) is an interdisciplinary program at the intersection of the disciplines of Informatics and Health Services Administration.

Private Institutions: Duke University's Fuqua School of Business, in partnership with the Duke Center for Health Informatics, began offering an interdisciplinary Master of Management in Clinical Informatics degree in August 2010. It is a one year program designed to prepare physicians, nurses and health care administrators for IT management careers in health care, medical research, government and consulting.

2. **Indicate how the new proposed program differs from other programs like it in the University. If the program duplicates other UNC programs, explain a) why it is necessary or justified and b) why demand (if limited) might not be met through a collaborative arrangement (perhaps using distance education) with another UNC institution. If the program is a first professional or doctoral degree, compare it with other similar programs in public and private universities in North Carolina, in the region, and in the nation.**

At the present time there are no equivalent master's level programs in health informatics in North Carolina. The University of North Carolina at Charlotte is preparing a professional science master's in health informatics and presented their proposal to UNC-GA November 2010. As a professional science degree (PSM) UNCC's master's degree program in health informatics will focus on the technologic aspects of managing health information. On the other hand, the MS in health informatics and information management proposed by ECU will emphasize the social aspects (individual, group and organizational) of health informatics. Course work will focus on the analysis, implementation and ongoing management of the critical factors that impact the successful selection and use of health care information technologies. The ECU program will be the only program that offers an RHIA option and whose graduates will be eligible for the RHIA national certification exam. On the basis of our strong DE experiences, the program will be available online to the distance education students.

The Duke Health Informatics program is a one year program designed to prepare physicians, nurses and health care administrators for IT management careers in health care, medical research, government and consulting. The degree program that HSIM proposes is a 5-6 semester program targeting students from a variety of backgrounds such as IT and health care. In addition, unlike Duke's program our proposed degree program will also offer an RHIA certification track.

A related program in nursing informatics exists at Duke and at UNC Chapel Hill; however, their programs are specific to nursing applicants who must hold a BSN as a pre-requisite for admission into the program.

Nationally, currently there are currently 6 CAHIIM (www.cahiim.org) accredited master's degree programs in health informatics and/or information management. A comprehensive search for national programs equivalent to the proposed masters of science in health informatics and information management identified 34 programs. For example, the University of Wisconsin at Milwaukee offers an MS in health care informatics. The curriculum for this program consists of 35 credit hours and covers areas such as systems analysis and design, database and project management, decision support, network design, and health care applications and procurement. There is a thesis or project requirement as the capstone course. Northeastern University has an MS in health informatics that is a non-thesis program consisting of 36 graduate credit hours. The University of California Davis offers a master in health informatics which consists of 43 credit hours with a thesis requirement. The University of Illinois at Chicago, the University of Tennessee, and Northwestern University offer master's degrees in health informatics or a related area, but these are on-line programs only.

Four of the existing 34 national HIIM programs are situated in the southeast and mid-Atlantic regions and are potential competitors for North Carolina residents interested in graduate level health informatics and information management programs. The institutions and their program descriptions are as follows:

- The Medical College of Georgia (MCG) and University of Tennessee at Memphis (U of T) both offer a master's degree in health informatics and information management but do not offer an RHIA track.
- The University of Pittsburgh offers a master's degree either with or without an RHIA track.
- The University of Alabama at Birmingham offers a master's degree in health informatics; however, does not include an RHIA track.

Furthermore, the proposed MS HIIM at ECU stands out from its regional and national competitors by offering a master's degree that includes an RHIA option that will qualify individuals to take the American Health Information Management Association's (AHIMA) RHIA registration exam. As a result, compared to the institutions mentioned above, the proposed degree program at ECU would appeal to a wider market of customers: those looking to acquire the specific knowledge and skills related to HIIM without committing to the RHIA option; those holding bachelor's and master's degrees from other fields seeking a master's degree program that will prepare them as health care information professionals qualified to sit for the AHIMA RHIA registration exam; and finally, those who already hold the RHIA credential and are looking to upgrade their professional career status in health care information management by earning a graduate level degree in HIIM. Unlike the above programs, the proposed MS in HIIM at ECU will offer both on-campus and distance education options for completing the degree.

C. **Enrollment (baccalaureate programs should include only upper division program majors, juniors, and seniors):**

1. **Headcount Enrollment**

Show a five-year history of enrollments and degrees awarded in similar programs offered at other UNC institutions (using the format below for each institution with a similar program); indicate which of these institutions you consulted regarding their experience with student demand and (in the case of professional programs) job placement. Indicate how their experiences influenced your enrollment projections.

There is no history in UNC constituent institutions with a similar program at the master's level. A health informatics program was proposed by UNC Charlotte in November 2010. There are no enrollment data available yet for their program.

2. **Use the format in the chart below to project your enrollment in the proposed program for four years and explain the basis for the projections:**

In year 1, we will admit 10 full-time students and 5 part-time students. The assumption is that the program will take a full-time student 2-2.5 years to finish and a part-time student 3-3.5 years. The headcount enrollment is the total number of students in the program each year. We expect to reach the steady-state after year 5 with 20 full-time students and 13 part-time students. Because the curriculum will be delivered online and working professionals are anticipated as one of the streams as incoming students, the percentage of part-time students is relatively high in our estimation.

	Year 1	Year 2	Year 3	Year 4
Full-time	10	23	28	33
Part-time	5	12	21	27
TOTALS	15	35	49	60

Please indicate the anticipated steady-state headcount enrollment after four years:

We will admit 20 full-time students and 13 part-time students when reaching steady-state after four years (starting in year 5). We assume that full-time students will take 2-2.5 years to finish the program and part-time students will take 3.5 to 4 years to finish the entire program.

Full-time ____33____   Part-time ____27____   Total _____60_____

SCH production (upper-division program majors, juniors, and seniors only for baccalaureate programs)
Use the format in the chart below to project the SCH production for four years. Explain how SCH projections were derived from enrollment projections. (See UNC website for a list of the disciplines comprising each of the four categories.)

The table below shows the number of students (full time and part-time) and generated student credit hours. A 20% attrition rate has been factored in the calculation. It assumes that a full time student enrolls for 9 graduate credit hours per semester in spring and fall semesters and 6 credit hours in the summer (24 total credit hours per year) and a part-time student enrolls for 2 credit hours each in fall and spring semesters (12 credit hours per year). We expect a steady admission of 20 full time and 13 part-time students in year 5.

Year	Full time Admitted	Part-time Admitted	Total Full Time Enrolled	Total Part-time Enrolled	Head Count	Adjusted Head Count	SCHs
1	10	5	10	5	15	12	240
2	13	7	23	12	35	28	557
3	15	9	28	21	49	39	739
4	18	11	33	32	65	52	941

Full time Admitted: Number of full time students admitted during the year
Part-time admitted: Number of part-time students admitted during the year
Total Full Time Enrolled: Number of full time students enrolled (students admitted in the past two years)
Total Part-time Enrolled: Number of part-time students enrolled (students admitted in the past four years)
Head Count: Total number of students enrolled.
Adjusted Head Count: 80% of total head count after factoring in 20% attrition rate.
SCHs: Student Credit Hours generated.

Please note that the MS HIIM is to replace the BS in HIM program that is currently generates about 960 average undergraduate SCHs as in program category III.

Year 1	Student Credit Hours		
Program Category	UG	Masters	Doctoral
Category I			
Category II			
Category III		240	
Category IV			

Year 2	Student Credit Hours		
Program Category	UG	Masters	Doctoral
Category I			
Category II			
Category III		557	
Category IV			

Year 3	Student Credit Hours		
Program Category	UG	Masters	Doctoral
Category I			
Category II			
Category III		739	
Category IV			

Year 4	Student Credit Hours		
Program Category	**UG**	**Masters**	**Doctoral**
Category I			
Category II			
Category III		941	
Category IV			

III. PROGRAM REQUIREMENTS AND CURRICULUM

A. Program Planning.

1. List the names of institutions with similar offerings regarded as high quality programs by the developers of the proposed programs.

Section II.B.2 provides an overview of the background research on institutions with similar programs nationally. These are considered high quality programs precisely because they have earned accreditation status from CAHIIM, the sole organization qualified to confer accreditation to such programs.

Currently there are six health informatics and health information management program approved by CAHIIM (http://www.cahiim.org/accredpgms.asp):

1) Claremont Graduate University, Claremont, CA - Master of Science in Health Information Management
2) College of St. Scholastica, Duluth, MN - Master of Science in Health Information Management
3) Oregon Health & Science University - MBI and MS Medical Informatics
4) University of Illinois at Chicago - Master of Science in Health Informatics
5) University of Pittsburgh - MS in Health and Rehabilitation Sciences with a concentration in Health Information Systems
6) University of Tennessee - Master of Health Informatics and Information Management

2. List other institutions visited or consulted in developing this proposal. Also discuss or append any consultants' reports, committee findings, and simulations (cost, enrollment shift, induced course load matrix, etc.) generated in planning the proposed program.

The chair of the Health Services and Information Management Department in the College of Allied Health Sciences at ECU presented our proposed MS curriculum at the National Health Information Administration (HIA) Educators Consortium on March 11, 2011. There were 25 HIA educators in attendance who offered their suggestions including faculty members from two CAHIIM accredited Master programs (College of St. Scholastica and University of Tennessee

Health Science Center) and two non CAHIIM-accredited-master's programs (Medical College of Georgia, and University of Alabama at Birmingham).

Their recommendations to ECU included:

1) To have the program accredited by CAHIIM in both RHIA and non-RHIA options.
2) To have a "feeder" track built in the HSM program to support enrollment. The faculty at HSIM rejected the suggestion of building a separate "feeder" track within the HSM program because the graduate and undergraduate curricula are at different rigorous level. Besides, three undergraduate HSM courses (Anatomy and Physiology, Medical Terminology and Applied Medical Sciences) have already been included as pre-requisites for one of the required courses in the RHIA option.
3) RHIA option students could choose thesis in addition to capstone if the students desire.

In addition to these suggestions, they validated and supported our curriculum for the proposed MS HIIM program.

We have also informally consulted with Claire Dixon-Lee, Vice President of Education at AHIMA and Executive Director CAHIIM at CAHIIM. CAHIIM is the only potential accreditation body for Health Information Management/Informatics programs. The utilization of the CAHIIM standards and the AHIMA competencies as a basis for the curriculum development for the proposed program at East Carolina University is the most appropriate method of analysis. Dr. Dixon-Lee advised on the CAHIIM approval and the curriculum development process.

A curriculum design task force in the department was established to design and develop course proposals by using the CAHIIM MS Health Informatics Curriculum Map and RHIA Certification Exam Knowledge Clusters as the blueprint to ensure the completeness of the curriculum for the purpose of the Health Informatics graduate education and the RHIA exam. Eight new courses were added to the curriculum based on the analysis from the task force.

B. **Admission. List the following:**

1. **Admissions requirements for proposed program (indicate minimum requirements and general requirements).**

The Department of Health Services and Information Management offers the master's of science in health informatics and information management degree. The degree requires 36 s.h. of core courses and 12 s.h. from one of the following options: non-thesis, thesis, or Registered Health Information Administrator (RHIA). The RHIA option allows graduates to be eligible to take the RHIA examination.

The minimum admission requirements for the program are:

1) An earned undergraduate degree from an accredited institution and completion of the following prerequisite courses within 5 years of making application: computer programming (3 s.h. minimum) and statistics (3 s.h. minimum);
2) An undergraduate GPA of 3.00 or better;
3) Acceptable scores on the verbal, quantitative, and analytical sections of the GRE or GMAT;
4) Positive letters of recommendation and a résumé;
5) A statement of purpose outlining the goals for pursuing a graduate education in health informatics and information management;
6) Acceptable TOEFL or IELTS score for foreign students whose first language is not English; and
7) Other criteria as required by the Graduate School.

These admission criteria apply for all three options: non-thesis; thesis; or RHIA

2. Documents to be submitted for admission (listing or sample)
1) Official transcripts from all colleges and universities attended.
2) Official GRE or GMAT scores.
3) Official TOEFL or IELTS scores.
4) The ECU application for graduate admission form.
5) Three letters of recommendation.

C. Degree Requirements. List the following:

1. Total hours required. Major. Minor.

The degree program requires at least 48 hours, including 36 hours of core courses and 12 hours of concentration courses in one of three tracks: non-thesis, thesis, or RHIA. The non-thesis and RHIA tracks include 3 hours for an internship and the thesis track includes 3 hours for a thesis course. A full curriculum plan is shown in Figure 1.

Thesis Option 12-21 hours	Non-Thesis Option 12-18 hours	RHIA option 12-21 hours
COHE 6440 E-Health Care Information Systems	COHE 6440 E-Health Care Information Systems	COHE 6310 Health Accounting and Financial Administration
COHE 6450 Decision Support in Health Care	COHE 6450 Decision Support in Health Care	COHE 6460 Classification Systems in Health Care
COHE 7000 Thesis	COHE 6803 Internship	COHE 6600 Management of Health Care Operations
SENG 6230 Software Engineering	SENG 6230 Software Engineering	COHE 6803 Internship

CORE
36 Hours

BIOS 7021 Biostatistics for Health Professionals	COHE 6480 Health Data Structure
COHE 6000 Health Care Systems and Problems	COHE 6490 Foundations of Health Information Technologies
COHE 6410 Electronic Health Records	COHE 6510 Social and Organizational Issues in Health Information Technologies
COHE 6420 Evaluation Methods in Health Informatics	COHE 6630 Quality Management in Health Care
COHE 6430 Database Systems in Health Care	HIMA 6060 Theories and Applications
COHE 6470 Health Information Privacy and Security	MIS 6843 System Analysis and Design

Figure 1 MS HIIM Curriculum Plan

2. **Proportion of courses open only to graduate students to be required in program (graduate programs only).**

All existing courses have already been taught at the graduate level. At ECU only courses numbered 5000 or higher can be counted toward completion of graduate degrees. All courses in the MS HIIM curriculum are at the 6000 level or above. Therefore, courses in the MS HIIM curriculum are open only to graduate students.

3. **Grades required.**

A student in the MS in the Health Informatics and Information Management Program must maintain a minimum GPA of 3.0 for continued enrollment in the program. A student receiving a grade of C will be put on probation. Accumulation of three *C* grades will result in the suspension of the student's enrollment in the program. Accumulation of one *F* grade will result in the suspension of the student's enrollment in the program.

4. **Amount of transfer credit accepted**

Up to six hours of approved coursework may be transferred from regionally accredited master's and doctoral programs. Only courses in which the student earned a grade of *B* or better may be transferred. A master's degree program in HIIM is a natural complement for the Health Informatics certificate graduates. Students will be able to apply 15 credit hours from the Health Informatics certificate into the MS if they are admitted to the MS HIIM program. Thus, a certain number of students can begin by taking core courses in the certificate and then opt to transfer the credit hours into the master's degree program.

5. **Other requirements (e.g. residence, comprehensive exams, thesis, dissertation, clinical or field experience, second major, etc.).**

See III.C.1 above. Students who elect to pursue either the non-thesis or RHIA optional tracks must complete the internship course. Those who elect the thesis optional track must complete the thesis course.

6. **Language and/or research requirements.**

Students in the MS HIIM program must exhibit proficiency in English for effective oral and written communications.

7. **Any time limits for completion.**

Time limits are described in the ECU Graduate Catalog: "The time limit for completing all credit (including transfer credit) in non-doctoral programs is six years. College, school, and departmental petitions for time extensions for completion of degrees will be reviewed and acted upon by the Graduate School. The Graduate School is empowered to establish the length of time for extensions that are granted and to specify the conditions governing time extensions that student petitioners must meet. No program content over 10 years old can be applied toward a graduate degree."

D. **List existing courses by prefix, number, and title (include s.h.) and indicate (*) those that are required. Include an explanation of numbering system. List (under a heading marked "new") and describe new courses proposed.**

Required courses: BIOS = biostatistics; COHE= graduate courses in the health services and information management department. Note: In 2009 the departments of Community Health (a graduate level program) and Health Services and Information Management were merged. As a result this allowed HSIM to use the COHE prefix to designate its graduate course offerings. HIMA = health information management; MIS = management information systems; SENG = software engineering.

1. Existing Courses

* BIOS 7021. Biostatistics for Health Professionals I (3) Formerly BIOS 6021 P: MATH 1065 or consent of instructor. Applies statistical methods to health sciences. Types, organization, and display of data; elementary probability; parametric and nonparametric techniques when dealing with one or two samples (matched and independent); one way ANOVA; and simple linear regression.

*COHE 6000. Health Care Systems and Problems (3)
P: Consent of instructor. Advanced study of contemporary health care problems. Evolution, philosophy, and present and future trends of our health care system. Emphasis on health policy and practices of community health service institutions and agencies.

* COHE 6310. Health Care Accounting and Financial Administration (3)
Application of the theories, principles and concepts of financial management and accounting to decision-making and accountability in health care organizations.

*COHE 6410. Electronic Health Records (3)
P/C: HIMA 6060 or consent of instructor. Principles and approaches to EHR technology.

*COHE 6420. Evaluation Methods in Health Informatics (3)
P/C: HIMA 6060 or consent of instructor. Design, data collection, analysis and reporting of health informatics applications.

*COHE 6430. Database Systems in Health Care (3)
P/C: HIMA 6060 or consent of instructor. Relational database theory and applications in health care.

*COHE 6440. E-Health Care Information Systems (3)
P/C: HIMA 5060 or consent of instructor. Systematic analysis of electronic technologies in health care.

*COHE 6450. Decision Support Systems
P/C: HIMA 5060 or consent of instructor. Theories and applications of decision science in health care.

*COHE 6600. Management of Health Care Operations (3)
P: COHE 6000 or consent of instructor. Focus on day-to-day operational aspects of managing health care organizations. Operational needs of various health care providers. Emphasis on legal, marketing, service, quality, and personnel issues.

* MIS 6843. Systems Analysis and Design (3) Formerly DSCI 6843 P: MIS 6143. Information systems analysis and design from information system/requirements analysis and application system design perspectives.

* SENG 6230. Software Engineering Foundations (3) Same as CSCI 6230 P: CSCI 4200 or consent of instructor. Software project development using software engineering principles and current software development techniques.

2. New Courses

*COHE 6460. Classification Systems (3)
P: BIOL 2130, 2131 Anatomy and Physiology or equivalent; HIMA 3000 Medical Terminology or equivalent; HIMA 3113 Applied Medical Sciences or equivalent; COHE 6000, HIMA 6060 or consent of instructor. Coding of diseases and procedures by "International Classification of Diseases" and services and procedures according to the Healthcare Common Procedure Coding System for reimbursement.

*COHE 6470. Health Information Privacy and Security (3)
P: COHE 6000; HIMA 6060; or consent of instructor. Security and privacy issues, legislation, regulations, and accreditation standards unique to the health care domain.

*COHE 6480. Health Data Structures (3) P: COHE 6000; HIMA 6060; or consent of instructor. Examination of the concept of a data set and use of a standard set of terminologies, vocabularies and classification systems for information management.

*COHE 6490. Foundations of Health Information Technologies (3)
P: COHE 6000; HIMA 6060; or consent of instructor. Broad coverage of technology underlying modern medical computing and health information management.

*COHE 6510. Social and Organizational Issues of Health Information Technologies (3)
P: COHE 6000; HIMA 6060; or consent of instructor. Impact of information systems on the health care organization and application of theory through case study analysis.

*COHE 6630. Quality Management in Health Care (3)
P: COHE 6000; HIMA 6060; or consent of instructor. Health care quality management tools and applications and review of current literature.

*COHE 6803. Internship in Health Informatics and Information Management (3-9)
P: Consent of Health Informatics and Information Management Program Director. Workplace experience or credit by portfolio to include specific project, cooperative practicum, professional shadowing, or individual relevant topic of study.

* COHE 7000. Thesis (1-6)

May be repeated. May be taken for a maximum of 12 s. h. P: Consent of Health Informatics and Information Management Program Director.

* HIMA 6060. Theories and Applications (3)
P: Consent of instructor. Theoretical and practical foundations of health informatics for clinical, managerial, community health, and public health services. Previously HIMA 5060.

IV.   FACULTY

A. List the names of persons now on the faculty who will be directly involved in the proposed program. Provide complete information on each faculty member's education, teaching experience, research experience, publications, and experience in directing student research, including the number of thesis and dissertations directed for graduate programs. The official roster forms approved by SACS can be submitted rather than actual faculty vita.

Nine faculty from the department of health services and information management will serve as the main faculty body in the proposed program. Four have experience directing theses and dissertations. The following table shows the list of faculty members for the proposed MS in HIIM. Detailed faculty information is in Appendix A.

Table 2 MS HIIM Core Faculty Members

FACULTY NAME	TITLE	HIGHEST DEGREE AND INSTITUTION	OTHER DEGREES AND INSTITUTIONS
Dr. Xiaoming Zeng	Chair and Associate Professor	PhD, Health Information Management, University of Pittsburgh, 2004	MD, Peking Union Medical College, 1997
Dr. Elizabeth Layman	Professor	PhD, Higher Education, 1995, Georgia State University	MA, Organizational leadership,1989, College of St. Catherine Post baccalaureate certificate in Health Information Administration, 1989, College of St. Scholastica
Dr. Paul D. Bell	Professor	PhD, Educational Research and Policy Analysis, 2006, NCSU	Postbaccalaureate certificate in Medical Record Administration, 1988, College of Health Related Professions, SUNY Downstate Medical Center
Dr. Robert Campbell	Assistant Professor	Ed. D, Instructional Design and Technology, 1999, University of Pittsburgh	MLS Library and Information Science, 1989, University of Pittsburgh. CEPHR, Certified Professional in Electronic Health Records, 2008
Dr. Thomas Ross	Associate Professor	PhD, Economics, 1995, St. Louis University	MBA in Finance and Accounting, University of Cincinnati, 1981
Dr. Michael H. Kennedy	Associate Professor	PhD, Decision Sciences and Engineering Systems, 1992, Rensselaer Polytechnic	Master's Health Administration, 1985, Baylor University

		Institute	
Dr. Robert Kulesher	Associate Professor	PhD, Urban Affairs and Public Policy, 2003, University of Delaware	Master's Health Administration, 1977, Washington University
Dr. Susie Harris	Assistant Professor	PhD, Rehabilitation Studies, 2008, ECU	MBA with Health Care Administration option, 1997, ECU BS, Health Information Management, 1989, ECU
Dr. Leigh Cellucci	Associate Professor	PhD, 1989, Sociology, University of Virginia	MBA, 2002, Idaho State University
Dr. Patricia Royal	Assistant Professor	EdD, 2006, Administration in Higher Education, East Carolina University	MSW, 1998, Social Work, East Carolina University

B. Estimate the need for new faculty for the proposed program for the first four years. If the teaching responsibilities for the proposed program will be absorbed in part or in whole by the present faculty, explain how this will be done without weakening existing programs.

In order to maintain its reputation as a leader in the health information management discipline, the HSIM department in the College of Allied Health Sciences at ECU is proposing a master's degree program in health informatics and information management that will replace its current BS degree program in health information management. We expected the need of two new faculty members in the first four years due the increased rigor and research productivities required at the master level.

The faculty members in HSIM have diverse academic backgrounds. All but one faculty member have doctoral degrees. The discipline of Health Information Management has traditionally only offered the baccalaureate as the entry level degree as well as the terminal degree. Faculty members usually earn advanced degrees in other fields (business, higher education, rehabilitation sciences etc.). The discipline of Health Services Management has a similar profile of faculty academic backgrounds. The field has developed from baccalaureate to doctoral degree as the terminal degree in the field. As a result, the faculty members in our Health Services Administration program also have doctoral degrees in many different fields (higher education, public health, economics, decision sciences, management, library sciences etc.). All faculty in the department have more than five years of teaching experience in the fields of health information management and health services management. Their diverse academic backgrounds will allow faculty to teach courses according to their strengths and experiences.
Core faculty in the proposed MS in HIIM program who are designated to teach in the program already have experience developing and teaching courses in the two graduate certificate programs (health care administration and health informatics). These certificates will share core courses with the proposed MS in HIIM. There are also HSIM faculty members who have specific experience offering coursework that meets our professional accrediting body's requirements for the RHIA certification exam.

Some new courses, as articulated in this document, will need to be created. As the program enrollment grows, we expect to add new faculty members, possibly with interdisciplinary expertise, to further strengthen both the proposed and the existing programs. Two new faculty lines are requested for the proposed program: one to be added in the second year and the second to be added in the third year (see budget document). The SCHs generated by the incremental enrollment will be sufficient to fund these two positions. However, given the possibility of state budget restraints, we can maintain the current number of faculty members to deliver the curriculum in the department by the following strategies:

1) Scale back the number of students in the enrollment: the discontinuation of the HIM program will release 3.4 FTEs. If we enroll 10 full time students and 5 part time students each year in the MS HIIM program, we will generate about 3.8 FTEs. We will increase the enrollment if the restraint is removed and an additional faculty position is given.
2) Recruit adjunct faculty members to teach lower division (undergraduate HSM program) courses. For example, some courses (HIMA 3000 Medical Terminology, HSMA 2000 Professional Roles and Environment in Health Care) can be taught by adjunct faculty members who hold a Master's degree in a relevant discipline without adding too much stress on the resource.
3) Combine low enrollment sections into fewer sections. This decreases the number of courses/sections that a faculty member would teach.
4) Suspend low enrollment elective courses. Some elective courses in the undergraduate HSM program are designed to provide students exposure to special areas in health services administration (e.g., long term care, outcome assessment, and managed care). They usually have low enrollment. We could suspend the offering during the period of budget restraint.

We also recognized the increased SCHs may not guarantee the automatic receiving of the two new faculty positions as these positions are strategically distributed across all units on campus. We will use the same strategies described above to adapt to the faculty shortage.

C. If the employment of new faculty requires additional funds, please explain the source of funding.

Funding that is currently devoted to the baccalaureate program in HIM will be assigned to MS HIIM. New financial resources will come from the additional tuition fees generated by graduate hours versus undergraduate hours (see table below).

Table 3 Tuition Changes Between Undergraduate and Graduate Programs

Fall 2011	Undergraduate		Graduate		Difference
	On-Campus	DE	On-Campus	DE	

In-state	$139.50 per credit hour	$113.00 per credit hour	$197.60 per credit hour	$174.00 per credit hour	**+$58.10/$61 per credit hour**
Out-of-state	$663.50 per credit hour	$538.00 per credit hour	$797.28 per credit hour	$703.00 per credit hour	**+$133.78/$165 per credit hour**

The UNC-GA funding model also has a differential for undergraduate versus graduate Category 3 (allied health): 406.24 undergraduate SCH per instructional position versus 186.23 master's SCH per instructional position. This differential is positive in the direction of the master's program. We expect that the normal faculty position allocation process of new faculty positions for departmental growth will be sufficient to satisfy the new faculty needs of the proposed program. Furthermore, projected revenues for years 1 and 2 should be satisfactory to support the addition of two faculty lines in years 2 and 3.

D. Explain how the program will affect faculty activity, including course load, public service activity, and scholarly research.

Eight new courses are proposed for the MS HIIM program. The termination of the undergraduate HIM program will release 7 courses. In the meanwhile, based on the feedback from the American University Programs of Health Administration (AUPHA), the accreditation body for the HSM program, the HSIM faculty decided to add 3 new courses to address gaps in the HSM curriculum. We expect all faculty members will teach the same course load (credit hours) after the establishment of the MS HIIM program. Therefore, four courses need to be covered with additional resources. However, we will adopt several strategies if additional funds are unavailable for faculty lines:

1) have adjunct faculty members teach lower division courses ;
2) combine sections to release course load; and
3) suspend the offerings of several HSM electives with low enrollment numbers.

The Department of Labor Employment and Training Administration (ETA) report projects that 40,800 new Health Information Technologies (HIT) occupations will be needed by 2012 (http://bit.ly/kaTNhJ). Most HIT programs are in the two-year community colleges. These growth projections will require training and preparation of master's trained faculty to teach at the two-year college level. The addition of master's level programs in health informatics and information management, such as the MS in HIIM program at ECU, should help in this effort to "train the trainers."

The new program will help to create new opportunities for research, scholarly activities, and collaboration for the faculty members in the HSIM department. The combination of health, healthcare, and informatics represent fertile ground for research, innovation, and technology development. Students who choose the thesis option will be supervised by faculty members to

work on research projects that can lead to publications and grant funding. Given the increased opportunities in research and scholarly work and the need to direct students to engage in research activities related to health informatics and information management, the department will add more research related objectives its strategic plan. These objectives include pursuing external grant funding, increasing number and quality of publications on health informatics and information management, advising students to choose thesis option, as well as increasing the investment in research by securing startup funds for new faculty members. Faculty members will be evaluated annually against strengthened research requirements.

The new academic program will help to build bridges among the faculty, among the disciplines, between colleges, and between ECU and the healthcare industry. It will create additional opportunities for the faculty to work with industry and community partners. For example, HSIM is actively collaborating with different departments across the ECU campus on a variety of graduate program initiatives. They include, the College of Nursing to develop a MSN in Nursing Leadership with a focus in HIT, and with the Department of Public Health in BSOM to add a Health Informatics certificate option to their MPH program. The Division of Health Sciences is forming a collaborative workforce to investigate the roles of informatics in education, research and clinical services. These collaborative efforts will help provide opportunities for interdisciplinary scholarly research.

Moreover, health care organizations such as the University Health Systems of Eastern Carolina; Home Health & Hospice Care (3HC); Nash Health Care Systems; Lenoir Memorial Hospital, East Carolina Neurology; are in the process of adopting electronic health record (EHR) systems. These institutions are not only potential sites for internship/capstone affiliations, but also sites where applied research can be performed on electronic health information systems.   We expect the addition of the MS HIIM will have a positive impact on faculty's scholarly research.

V.   LIBRARY

A.   Provide a statement as to the adequacy of present library holdings for the proposed program.

ECU has two academic libraries: Joyner Library and William H. Laupus Health Sciences Library. Health Informatics specific books and journals are primarily held in the Laupus Health Sciences Library, which is a resource library in the National Network of Libraries of Medicine. Consulting with the Laupus Health Sciences Library was initiated on May 31, 2011. The evaluation by Ms. Elizabeth Ketterman was completed on June 2, 2011 and the conclusion was that the holdings are adequate. A formal letter of support from the Director of the Laupus Library, Dr. Dorothy Spencer, is attached as Appendix B.

B.   State how the library will be improved to meet new program requirements for the next five years. The explanation should discuss the needs for books, periodicals,

reference material, primary source material, etc. What additional library support must be added to areas supporting the proposed program?

The Laupus Health Sciences Library will strategically increase the holdings specifically for Health Informatics contingent upon available funds. In particular the holdings in Dental Informatics will increase when the ECU School of Dental Medicine starts in Fall 2011.

C. Discuss the use of other institutional libraries.

Holding of other major libraries in the University of North Carolina system and beyond are accessible to faculty and students through interlibrary loan.

VI. FACILITIES AND EQUIPMENT

A. Describe the facilities available for the proposed program.

The MS HIIM is offered by the Department of Health Services and Information Management in the College of Allied Health Sciences (CAHS) that is in the Health Sciences Building. The Health Sciences Building is only five years old. The facilities in CAHS as well as those in the Laupus Health Sciences library in the same building are available to support the program. The building provides adequate and appropriate office, classroom, and laboratory space to support the MS HIIM program. We expect half of the students will be on campus students. The HSIM department has a smart classroom with 35 seats that will accommodate instructor as well as student laptop use. ECU Information Technology and Computer Services (ITCS) has already approved an one-time funding request to equip the smart classroom with 26 workstations preloaded with health informatics software. On-campus students can access the web in the HSIM computer classroom or in the computer lab located on the second floor of the Laupus Health Sciences library. We believe that these facilities will be adequate to support both instructors and learners in the MS HIIM program.

B. Describe the effect of this new program on existing facilities and indicate whether they will be adequate, both at the commencement of the program and during the next decade.

The existing facilities and laboratories in the College of Allied Health Sciences will be adequate to support the new program in the first five years. Furthermore, given the space and facilities available in CAHS, the new program will not negatively affect existing program offerings. Beyond the first five years from the start of the new program, new space, laboratories and/or equipment may be needed as the proposed MS in HIIM grows in enrollment and in offerings. With the normal resource allocation process at the university, as well as with other sources of funding (for example: federal grants), the need for new facilities can be satisfied.

C. Indicate any information technology needed and/or available

The classrooms in the Health Sciences Building feature state-of-the-art technology. All the classrooms in the building are equipped with Smart Classroom with Mediasite streaming and capturing capability to broadcast face-to-face class to distance education students. The building is wireless. The College of Allied Health Sciences is served by an in-house instructional technology team as well as the University's Information Technology and Computing Services (ITCS). There is a state-of-the-art computer lab in the Laupus library (in the same building). We are in the process of converting one of our classrooms to a computer lab with desktops and HIIM-specific software installed. Additional computer laboratories are available in each classroom building across campus. ECU manages a student computing support program that helps students to purchase and maintain their personal desktops and laptops.

We expect some students in the MS HIIM program will be distance education students who will need to have online access to software packages and other information resources. ECU has a long history of providing state-of-art online education. The official course management system at ECU is Blackboard, which recently was upgraded to version 9.0. Other course management systems available to faculty members include Sakai and Moodle. Additional online instructional tools are available to faculty members to enrich the learning experiences of the students. These tools include:

1) Webinar system – Centra. Allow faculty to meet with students online in real time.
2) Blogging system – Wordpress. Allow students to publish their writings online
3) Wiki system – Confluence. Allow students to collaborate on preparing documents online.
4) Multimedia broadcasting – Mediasite. Record lectures and make them available to students online.
5) Portfolio system – iWebfolio. Allow students to generate the portfolio of their academic works and share it with faculty and potential employers.

ECU also maintains a virtual computing lab environment that allows Distance Education students to access a virtual computer desktop with preinstalled software. Several HIIM specific software applications have already been installed on the virtual computing lab environment for DE students to use remotely. These specific software tools include: 1) DecisionTools Suite, 2) 3M encoder, 3) SQL server, 4) MicroSim Inhospital, and 5) Exsys rule based decision tool. Additional tools needed for teaching health informatics and information management curriculum could be acquired by sending a request to ITCS.

In collaboration with the College the Nursing, the College of Allied Health Sciences purchased an educational EHR system – NeehrPerfect. NeehrPerfect is based on a public domain EHR system that allows students to have hands-on experiences to use different functions of an EHR system. It is a web-based system, so online students will be able to access it remotely.

Developing and deploying a laboratory environment that simulates an electronic health record is essential to meeting the training needs of our students. Therefore, we anticipate continuing to access the American Health Information Management Association (AHIMA) Virtual Lab that

was established in March 2006. This Internet-based software lab and lesson repository was developed with contributions from software venders, educators, and Health Information Technology professionals. Software packages essential for teaching and practicing health information management skills are included in the AHIMA Virtual Lab:

- Master Patient Index
- Encoder
- Abstracting system
- EDMS/Document imaging
- Deficiency Analysis
- Chart tracking
- Release of Information
- Registration/ADT system
- Transcription
- Speech Recognition

Therefore, the current information resources are sufficient for the MS HIIM program to deliver its curriculum to both on-campus and online students with no constraints.

D. Indicate sources of financial support for any new facilities and equipment.

As indicated above, the need for new facilities and equipment for the new program is not anticipated in its first five years of existence. After the first five years and when the program grows beyond the capability of our current infrastructure, we expect that financial support for new facilities and equipment will come from three possible sources:

1) the normal budget and resource allocation process at the university to accommodate the program growth;
2) grant opportunities from federal and private foundations; and
3) funding and/or in-kind support from local industry partners.

VII. ADMINISTRATION

A. Describe how the proposed program will be administered, giving the responsibilities of each department, division, school, or college. Explain any inter-departmental or inter-unit administrative plans. Include an organizational chart showing the "location" of the proposed new program.

The master of science in health informatics and information management program will be administered within the Department of Health Services and Information Management in the College of Allied Health Sciences (CAHS), Division of Health Sciences at East Carolina University. The Department of Health Services and Information Management will be responsible

for the oversight, administrative and academic functions of the program. ECU Graduate School will be responsible for the initial admission of students, oversight of the curriculum, and monitoring students' academic performance. There will be an MS HIIM program director that will be responsible for the program's day-to-day operation. The program director reports to the Chair of the Department of Health Services and Information Management.

3. Organizational Chart

The organization chart for the administration of the MS HIIM is shown in Figure 2, below. Because the MS HIIM program is housed in the HSIM Department, the Chair of the HSIM department will have the overall administrative responsibility for the program. The Chair of the HSIM appoints and directs the MSHIIM program director who will serve as the Chair's representative for the administration and operation of the program. The Department of HSIM, with the consultation from the ECU Graduate School, will be responsible for the academics and operations of the program, including marketing, curriculum design, course scheduling and delivery, student advising, mentoring, internship placement, etc.

After the bachelor of science in health information management is transitioned to MS HIIM, the bachelor of sciences in health services management (BS HSM) will become the sole undergraduate program in the department. Faculty members in the department could be assigned by the Chair to teach courses in both BS HSM and MS HIIM programs, so there are no separate budget and faculty resources that are specifically allocated to the MS HIIM program. The Chair, in consultation with program directors, will be responsible for budgeting for faculty positions, maintaining certification and accreditation, marketing the programs, faculty development, office and educational equipment, and other operational needs. Staff members from the HSIM department will be used to support the operations of the MS HIIM program. No additional staff support will be needed.

An Advisory Committee, consisting of leaders and experts in health care, health information technology, information technology, and higher education, will be established. The responsibility of the advisory committee is to advise the program on industry needs and curriculum design to meet the needs. The committee will also serve as an advocate for the MS HIIM to the industry as well as community. Some organizations represented on the advisory committee are major potential employers of the MS HIIM graduates and are excellent sites for placing students in internships.
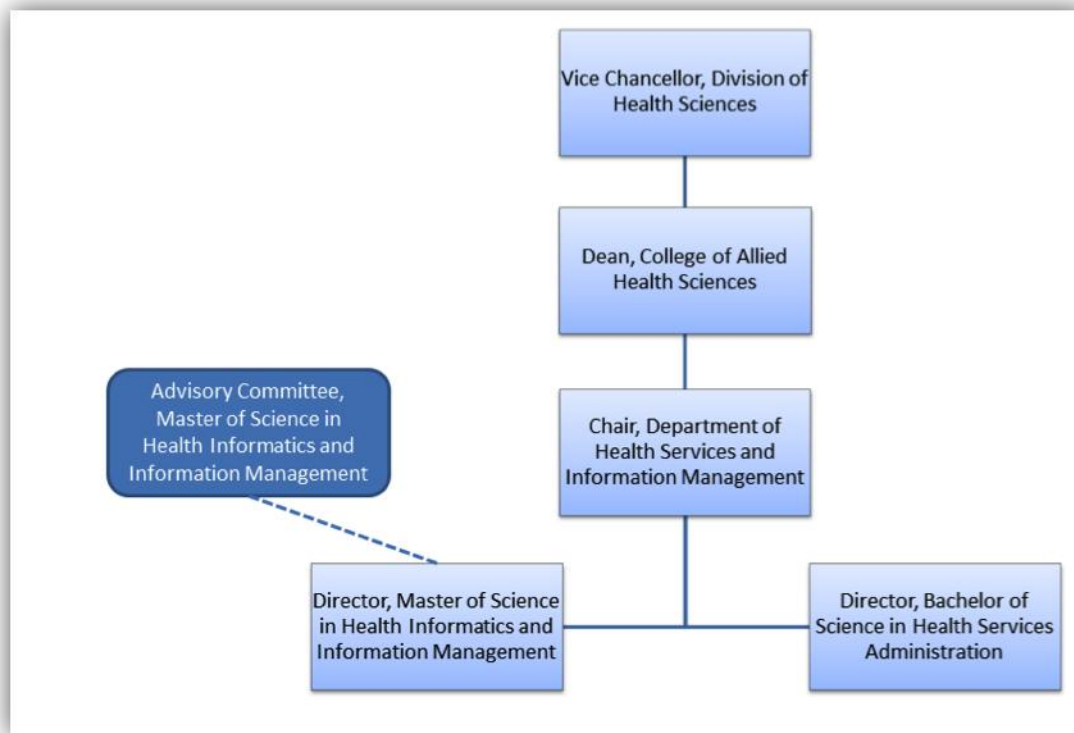
Figure 2 MS HIIM Organizational Chart

4. **The Master of Science in Health Informatics and Information Management Program Director**

With the approval of the Chair of HSIM and Dean of CAHS, in consultation with the Graduate School, the MS HIIM program director has the authority for all aspects of the MS HIIM program. The Program Director will be primarily responsible for day-to-day operations of the program as well as teaching, research and service as a faculty member. The duties of the program director include at least:

1) Represent the program to external and internal constituencies
2) Chair meetings of the advisory committee
3) Report program operation status to the Chair of HSIM
4) Oversee recruitment effort for the program
5) Oversee the admission effort for the program
6) Conduct curriculum review of the program
7) Evaluate program outcomes and student placement
8) Recommend operating budgets to the Chair of HSIM
9) Maintain appropriate student records
10) Coordinate course assignments with other departments
11) Coordinate student advising
12) Coordinate student internship placement
13) Seek and maintain program accreditation

VIII. ACCREDITATION

A. **Indicate the names of all accrediting agencies normally concerned with programs similar to the one proposed. Describe plans to request professional accreditation. If the proposed new degree program is at a more advanced level than those previously authorized or if it is a new discipline division, was SACS notified of a potential "substantive change" during the planning process? If so, describe the response from SACS and the steps that have been taken to date with reference to the applicable procedure.**

The program expects to seek professional (i.e., disciplinary) accreditation from the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). CAHIIM currently offers disciplinary accreditation at the associate and baccalaureate degree levels (http://www.cahiim.org/accredstnds.html), and at the graduate level for health informatics and information management programs (http://www.cahiim.org/applyaccredgrad.html; as of 04/21/2011, CAHIIM listed five accredited master's programs in health information management and one in health informatics. Proposed accreditation standards can be accessed on the CAHIIM website at http://www.cahiim.org/files/2010%20Interp%20Masters%20HI-1.pdf.

The proposed new degree program is not at a more advanced level than those previously authorized by SACS, nor is it in a new discipline division.

IX. SUPPORTING FIELDS

A. **Are there other subject matter fields at the proposing institution necessary or valuable in support of the proposed program? Is there needed improvement or expansion of these fields? To what extent will such improvement or expansion be necessary for the proposed program?**

There already exists a strong level of expertise in the areas of health informatics, health information management, and health services administration within the department. No expansion of expertise per se will be needed to implement the proposed program. However, the establishment of the program will bring student enrollment growth that is anticipated to bring additional faculty to the university, which will add depth and further opportunities for collaboration in health informatics.

Three courses in the curriculum (BIOS 7021, MIS 6843, and SENG 6230) will be delivered by faculty members from the Departments of Biostatistics, Management Information System, and Computer Science respectively; see Appendix C for letters of support from these departments. The thesis committees may consist of faculty members from other departments as well.

It is hoped that our current teaching and research collaboration with other departments (e.g., Master of Public Health program, College of Nursing, Laupus Health Sciences Library, and Brody School of Medicine) and Pitt County Memorial Hospital will continue. No expansion of these programs is critically needed for this proposed program, but their continued strength will certainly support our program.

X. ADDITIONAL INFORMATION

The ECU HIM undergraduate program is one of two CAHIIM accredited programs in North Carolina that graduate students who are eligible for the RHIA certification exam; (the other program in Western Carolina University is currently being suspended due to budget constraints). After the transition to the MS HIIM program, we will be the only graduate program in North Carolina whose graduates are eligible for the RHIA certification exam. The program will train additional professionals to lead the process of transition in health care from a paper environment to paperless environment.

XI. BUDGET

A. Provide estimates (using the attached form) of the *additional costs* required to implement the program and identify the proposed sources of the additional funds required. Use SCH projections (section II.C) to estimate new state appropriations through enrollment increase funds. Prepare a budget schedule for each of the first four years of the program, indicating the account number and name for all additional amounts required. Identify EPA and SPA positions immediately below the account listing. New SPA positions should be listed at the first step in the salary range using the SPA classification rates currently in effect. Identify any larger or specialized equipment and any unusual supplies requirements.

For the purposes of the second and third year estimates, project faculty and SPA position rates and fringe benefits rates at first-year levels. Include the continuation of previous year(s) costs in second and third-year estimates.

Additional state-appropriated funds for new programs may be limited. Except in exceptional circumstances, institutions should request such funds for no more than three years (e.g., for start-up equipment, new faculty positions, etc.), at which time enrollment increase funds should be adequate to support the new program. Therefore, it will be assumed that requests (in the "new Allocations" column of the following worksheet) are for one, two, or three years unless the institution indicates a continuing need and attaches a compelling justification. However, funds for new programs are more likely to be allocated for limited periods of time if at all.

Please see Appendix D for summaries of estimated additional costs in the first 5 years of the program's operation.

XII. EVALUATION PLANS

All new degree program proposals must include an evaluation plan which includes (a) the criteria to be used to evaluate the quality and effectiveness of the program, (b) measures to be used to evaluate the program, (c) expected levels of productivity of the proposed program for the first four years of the program operation (numbers of graduates), (d) the names, addresses, e-mail addresses, and telephone numbers of at least three persons (six reviewers are needed for graduate programs) qualified to review this proposal and to evaluate the program once operational, and (e) the plan and schedule to evaluate the proposed new degree program prior to the completion of its fifth year of operation once fully established.

A. **Criteria to be used to evaluate the proposed program.**
   1) Quality of applicants and admitted students in the program.
   2) Quality of students graduated from the program.
   3) Successful placement of students who choose an internship with local health care organizations.
   4) Students employed six months after graduation.
   5) Students on the RHIA track who pass the RHIA national exam.
   6) Students choosing thesis option who successfully defend their thesis.

B. **Measures to be used to evaluate the program.**
   1) GPAs and scores of standardized tests by the applicants and admitted students.
   2) Number of graduates from the program and their GPAs.
   3) Graduate survey
   4) Number of students who take the internship class being successfully placed at different health care organizations.
   5) Number and percentage of students who are employed or continue graduate study six months after their graduation. The data will be acquired via alumni survey.
   6) Number and percentage of students who pass the RHIA national certification exam the first time.
   7) Number and percentage of students who successfully defend their thesis if they choose the thesis option.

C. **Projected productivity level (number of graduates):**
   Please, note that we have included a 20% attrition rate into projected numbers of graduates.

Level	Year 1 2013-2014	Year 2 2014 – 2015	Year 3 2015 – 2016	Year 4 2016 – 2017	Totals
B					
M		8	10	16	34
I/P					
D					

(Key: B-Bachelor's, M-Master's, I/P-Intermediate or Professional, D-Doctoral)

D. Recommended consultants/reviewers: Names, titles, addresses, e-mail addresses, and telephone numbers. May not be employees of The University of North Carolina.

Rebecca Reynolds, EdD, RHIA
Associate Professor and Interim Chair
Department of Health Informatics and Information Management
University of Tennessee Health Science Center
920 Madison Avenue
Suite 518
Memphis, TN 38163
901-448-6486 (office)
901-448-1629 (fax)
rreynol5@uthsc.edu

Kathleen LaTour, MA, RHIA, FHIMA
Assistant Professor and Chair
Science 1123 D
Department of Healthcare Informatics and Information Management
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klatour@css.edu

Alice Noblin, MBA, RHIA, CCS, LHRM
Instructor and Director
Health Informatics and Information Management Program
HPA II - 210D
Department of Health Management and Informatics
College of Health and Public Affairs
University of Central Florida
407-823-2353 (office)
407-823-6138 (fax)
anoblin@mail.ucf.edu

E. Plan for evaluation prior to the fifth operational year.

Department leadership and faculty will engage in a continuous improvement and monitoring process addressing:
1) Student recruitment and retention
2) Student progress through the curriculum including satisfactory performance on prescribed gateway indicators

3) Student progress in development of health informatics and information management knowledge and skills
4) Student progress in development and implementation of internship and thesis research.

After two years, statistics regarding time to graduation will also be collected on an annual basis. Periodic surveys of alumni and employers will complement the data to be collected annually. Employer survey will be conducted each year to acquire employer's feedback on the performance of the program and the graduates. We are considering use of the academic portfolio tool iWebFolio for students to store and showcase their academic performance to faculty and potential employers. The portfolio could also be used as an indirect assessment tool to evaluate students' learning outcomes. The MS HIIM Advisory Committee will be asked for feedback at its annual meeting. Their feedback could include developments in the field that identify a need to revise the curriculum and keep it current.

XIII.   REPORTING REQUIREMENTS

Institutions will be expected to report on program productivity after one year and three years of operation. This information will be solicited as a part of the biennial long-range planning revision.

Proposed date of initiation of proposed degree program: August 2013

This proposal to establish a new degree program has been reviewed and approved by the appropriate campus committees and authorities.

Chancellor:

Date:

Appendix A

Master of Science in Health Informatics and Information Management
Faculty Information Sheets

Xiaoming Zeng, MD, PhD
Associate Professor
Health Services and Information management
College of Allied Health Sciences
ZENGX@ECU.EDU

ACADEMIC BACKGROUND

Ph.D. University of Pittsburgh, Pittsburgh, PA, Health Information Management, 2004

Certificate, University of Pittsburgh, Pittsburgh, PA, Biomedical Informatics, 2002

M.D. Peking Union Medical College, Beijing, P.R. China, Medicine, 1997

Include information below about courses taught, overall nature of workload assignment (including the percentage of time assigned to teaching, research, and service) and graduate student supervisory experience (theses/dissertations)

TEACHING ACTIVITIES (WITH EMPHASIS ON THE PAST FIVE YEARS)

Course (Existing) - Compensated Redesign

2011 - Course (Existing) - Compensated Redesign. Continue development of COHE 6440 E-Health Care Information System based on consumer health and patient centered care.

2010 - Course (Existing) - Compensated Redesign. Revise HIMA 5060 according to the latest development in the field. Some new modules include meaningful use of EHR, Social media, Health 2.0, compression of health data.

2009 - Course (Existing) - Compensated Redesign. HIMA 5060: Continued updating the content of the course. Developed online session of the class to accommodate distance education students.

2009 - Course (Existing) - Compensated Redesign. Redesign the COHE 6440 that was taught by an adjunct instructor last spring.

2009 - Course (Existing) - Compensated Redesign. Redesign the course HIMA 4160. Adopted a new textbook. Used Facebook and WordPress blog system in the course HIMA 4160

2009 - Course (Existing) - Compensated Redesign. HIMA 4160: Continue updating the content of the course. Adopt different approaches to face-to-face and online section of the class. Experimented an online voice discussion platform for discussion in the distance

education section. Used Classroom Response System TurningPoint to support didactic session.

2007 - Course (Existing) - Compensated Redesign. A new textbook was adopted for HIMA 4160 to expand the coverage of information technologies related to the course. Several new sections were designed to give students in-depth understanding and mastery of database management, decision analysis, privacy and security.

Course (New) - Creation/Delivery: Conventional

2007 - Course (New) - Creation/Delivery: Conventional. A new course HIMA 5060 Health Informatics was created and taught in summer 2007 and spring

2008. The course is an elective for MPH students and required course for health informatics minor.

Course (New) - Creation/Delivery: Online

2009 - Course (New) - Creation/Delivery: Online. COHE 6440: Developed the new course E-Health Care information System with Bradford Wheeler.

2008 - Course (New) - Creation/Delivery: Online. I created an online section of the new course HIMA 5060 that is taught in Spring 2008. It is open to the students at East Carolina University. The learning management system (LMS) is the Blackboard server at ECU. Mediasite service is used for real time capture of the lectures.

Student Assign-Students Advised (GRAD)

2009 - Student Assign-Students Advised (GRAD). 21 students, Health Informatics Certificate Program: Advised applicants on the process of application for the program. Advised current students on the course of study.

2007 - Student Assign-Students Advised (GRAD). 1 student, This year I have been mentoring an MPH student Bradford Wheeler to work on his master thesis project that builds an web based interface to make the health care data available to researchers and public health practitioners

Thesis / Dissertation Committee - Member

2009 - Thesis / Dissertation Committee - Member. 1 student, Committee member of the MPH professional paper 'Using Online Map for Disaster Planning' Innovations in Course Content / Presentation

2010 - Innovations in Course Content / Presentation. Used web 2.0 technologies -- Facebook and Wordpress blog in the course HIMA 4160.

2007 - Innovations in Course Content / Presentation. 1. Used YouTube as a pedagogical tool in online teaching. 2. Developed Flash-based online tutorials for students to review basic information technology skills.

Other Teaching Activities

2009 - Other Teaching Activities. Used Teleconference devices to deliver course content to HIM students at both ECU and Kuwait University.

2009 - Other Teaching Activities. AHIMA Research Training Institute: Worked as faculty member at AHIMA Research Training Institute. Taught classes during the face-to-face meeting in the summer of 2009. Participated in webinars throughout the year. Provided supervision to student projects.

2008 - Other Teaching Activities. Guest lecture 'Usability Evaluation' for AHIMA faculty research institute webinar series on March 4th, 2008.

SCHOLARLY & PROFESSIONAL ACTIVITIES RELATED TO PROPOSED DEGREE (WITH EMPHASIS ON THE PAST FIVE YEARS)

Articles in Refereed Journals

Zeng, X, & Bell, P.D. (in press, 2011). Determination of Problematic ICD-9-CM Subcategories for Coding Performance Study: a Delphi Method. *Perspectives in Health Information Management*

Harris, S. T., Zeng, X., & Ford, L. (in press, 2011). ICD-10: It's Coming, Ready or not. *Health Care Manager*.

Harris, S. T. & Zeng, X. (2010). Using an Audience Response System (ARS) in a Face-to-Face and Distance Education CPT/HCPCS Coding Course. *Perspectives in Health Information Management,* Winter 2010.

Zeng, X. (2009). Electronic Records in Health Care. *North Carolina Medical Journal*, 69 (2), 108 - 111.

Zeng, X., Reynolds, R., & Sharp, M. (2009). Redefining the Roles of Health Information Management Professionals in Health Information Technologies. *Perspectives in Health Information Management*, Fall, 2009.

Sligar, S. R. & Zeng, X. (2008). Evaluation of Website Accessibility of State Vocational Rehabilitation Agencies. *Journal of Rehabilitation*, 74 (1), 12-18.

Harris, S. T. & Zeng, X. (2008). Using Wiki in an Online Record Documentation Systems Course. *Perspectives in Health Information Management*, 5 (1).

Zeng, X. & Bell, P. (2008). Web 2.0: What a Health Care Manager Needs to Know. *Health Care Manager*, 27 (1), 58-70.

Trujillo, L. & Zeng, X. (2006). Data entry workers perceptions and satisfaction response to the stop and stretch software program. *Work: A Journal of Prevention, Assessment & Rehabilitation*, 27 (2), 111-121.

Zeng, X. (2006). Development of Web Accessibility: Policies, Theories and Approaches. *Chinese Journal of Rehabilitation Theory and Practice*, 12 (9), 762-767.

Hackett, S., Parmanto, B., & Zeng, X. (2005). A retrospective look at website accessibility over time. *Behaviour & Information Technology*, 24(6), 407-417.

Zeng, X. & Harris, S. T. (2005). Blogging in an Online Health Information Technology Class. *Perspectives in Health Information Management*, 2: 6.

Parmanto, B. & Zeng, X. (2005). Metric for Web accessibility evaluation. *Journal of the American Society for Information Science and Technology*, 56(13), 1394-1404.

Zeng, X. (2004). Removing a barrier to computer-based outbreak and disease surveillance-- the RODS Open Source Project. *MMWR Morbidity and Mortality Weekly Report*, 53 Suppl, 32-9.

Zeng, X. & Parmanto, B. (2004). Web content accessibility of consumer health information websites for people with disabilities: a cross sectional study. *Journal of Medical Internet Research*, 6(2), e19.

Non-Referred Articles

Bell, P. & Zeng, X. (2007). Web 2.0: What a Speech and Hearing Professional Needs to Know. ASHA SID 11 *Perspectives on Administration and Supervision*, 17 (3), 17-20.

Cohen, M. R., Amatayakul, M., & Zeng, X. (2007). SOA: A Potential Silver Bullet? *Advance for Health Information Executives*.

Refereed Proceedings

<u>Full Paper</u>

Sligar, S., Atherton, L., Zeng, X., & Toriello, P. (2008). Project Working Recovery (PWR): An Innovative Intervention for Unemployed Substance Abusers. *8th Annual National Rehabilitation Educators Conference*.

Zeng, X. & Sligar, S. R. (2008). Web Accessibility and Usability of the Homepages from Academy of Human Resource Development Members. *AHRD 2008 International Research Conference*, 312-317.

Zeng, X. (2004). Accessibility of Internet websites through time. *ACM SIGACCESS Accessibility and Computing*, 32-39.

Zeng, X. (2004). The RODS Open Source Project: Removing a Barrier to Syndromic Surveillance. *MEDINFO 2004*, 1192-6.

Zeng, X. (2004). Accessibility Transformation Gateway. Proceedings of the 38th Annual Hawaii International Conference on System Sciences (*HICSS'05*), 183a.

Paper Presentations-Refereed

International

Zeng, X., Campbell, R., & Al-Shawaf, H. (2009). Teaching Health Information Management Globally. *AHIMA AOE*, Las Vegas, Nevada.

Zeng, X., Bell, P. D., & Harris, S. H. (2009). Web 2.0 Technologies for Online Education. *AHIMA AOE*, Louisville, Kentucky.

Zeng, X. & Sligar, S. (2008). Web Accessibility and Usability of the Homepages from Academy of Human Resource Development Members. *AHRD 2008 International Research Conference*, Panama City, Florida.

National

Sligar, S. (2008). Project Working Recovery (PWR): An Innovative Intervention for Unemployed Substance Abusers. *8th Annual National Rehabilitation Educators Conference*, San Antonio, Texas.

Zeng, X., Bell, P., & Harris, S. (2007, August). Web 2.0 Technologies for Online Teaching. *AHIMA AOE*, Chicago, Illinois.

Research Grants

Funded

2009: Zeng, X. & Bell, P. D., The Determination of Reasons and Solutions for Low Quality ICD-9-CM Coding in Cardiovascular Cases: A Qualitative Approach ($12,774.00), East Carolina University Graduate Research and Study.

2009: Zeng, X. & Bell, P., Development of a New Graduate Certificate Program in Health Informatics at ECU ($50,000.00), University of North Carolina General Administration.

2006: Zeng, X., Virtual Lab: Creating Simulations for an Online Health Information Technology Course ($3,198.00), ECU Teaching Grant.

2004: Zeng, X., Evaluation and Enhancement of Accessibility of Consumer Health Information for People with Physical and Device Limitations($7,060.00), American Health Information Association FORE foundation.

Not Funded

2010: Zeng, X., National Center for Health IT Curriculum Development, Training and Dissemination at East Carolina University, Office of the National Coordinator for Health Information Technologies.

2009: Zeng, X., Regional Partnership to Expand the Health Information Technology Workforce in Eastern North Carolina, US Department of Labor.

2009: Zeng, X. & Kolasa, K., Personal Health Records for Pediatric Management, Kate B Reynolds Charitable Trust.

2007: Mansfield, C., Zeng, X., & Wilson, J., Eastern North Carolina Online Health Data Repository (ENCOHDR), Collaboration with Center for Health Services Research and Development, Brody Brothers Foundation Endowment.

2007: Zeng, X., Campbell, R. J., & Kragel, P., Personal Health Records Initiative at East Carolina (PHRIEC), Sent in the letter of intent. Did not pass the ECU internal screening, Kate B. Reynolds Charity Fund.

2007: Cummings, D. M., Mansfield, C. J., & Zeng, X., Electronic Health Records and Quality of Care in Rural Health Clinics: A Nationwide Study, GOV-Health Resources and Services Administration (HRSA).

2006: Zeng, X., Simmons, S., Lunsford, P., Yao, J., & Li, C., Using Personal Health Records to Improve Care of Children with Complex and Chronic Conditions, PRI-Robert Wood Johnson Foundation.

ECU, *Master of Science in Health Informatics and Information Management*, 50

2006: Zeng, X., Web Health Information on The Phone (WHIP): Providing Health Information to Visually Impaired People via Computer Technology Service, GOV-National Institute on Disability and Rehabilitation Research (NIDRR).

2005: Zeng, X., Workshop Series on Electronic Health Records for Health Information Professionals, Golden Leaf Foundation.

Service: Professional

Assurance of Learning - Professional Service

2008 – 2009: AHIMA FORE Research Training Institute, Faculty Member, Duluth, Minnesota (National).

Board Member: Advisory Board
2010 – 2011: Council for Allied Health in North Carolina (State).

Board Member: PRJ Editorial Review Board

2009 – 2011: Perspectives in Health Information Management, Editorial Board Member of the Research Journal Perspectives in Health Information Management of American Health Information Management Association Reviewed one article (International).

2008: Perspectives in Health Information Management, Editorial Review Board Member of the Journal Perspectives in Health Information Management (National).

Chair: Committee / Task Force
2009: AHIMA FORE Research Committee (International).

Chair: Conference / Track / Program
2009: Informatics in Health Care, Supervised the planning and implementation of the conference., Greenville, North Carolina (Regional).

Invited Lecture

2010: Korea University, Invited lecture of Health Information System in a Health Information Management course offered at Korea University by Dr. Hyun-Sill Rhee, Seoul, Virtual (International).

2010: ECU College of Health and Human Performance, Invited to be a guest lecturer in the course Global Health by Dr. Sloane Burke (Local).

Member: Committee/Task Force

2011: American Health Information Management Association Educational Strategy Committee (International).

2010: Council for Allied Health in North Carolina, Chapel Hill, North Carolina (State).

2007 – 2008: AHIMA FORE Research Committee, Serves as member on the AHIMA FORE Research Committee (National).

Reviewer - Article / Manuscript

2011: Journal of Public Health Management and Practice, Governance's role in local health departments' information system and technology usage (National).

2008 – 2010: Journal of Public Health Management and Practice,
5. Reviewed article 'Assessing the Relationship between Health Information Exchange and Public Health Agencies'
6. Reviewed article 'The Governance's Role in Local Health Departments' Information System and Technology Usage' (International).

2009: Perspectives In Health Information Management, Reviewed article Screening Algorithms to Assess the Accuracy of Present-on-Admission Coding (International).

Reviewer - Grant Proposal Related to Expertise
2010 – 2011: Louisiana Board of Regents Research Competitiveness Subprogram (RCS), Baton Rouge, Louisiana (National).

Reviewer: Conference Paper

2008: HIMSS, Review presentation proposals for the HIMSS 2008 conference, Orlando, Florida (International).

2011: AHIMA AOE, Review presentation proposals for AHIMA AOE 2011, San Antonio, Texas (International).

Paul D. Bell, Ph.D.
Professor
Health Services and Information Management
College of Allied Health Sciences
bellp@ecu.edu

ACADEMIC BACKGROUND

Ph.D. NCSU, Raleigh, NC, Educational Research and Policy Analysis, 2006

Certificate, College of Health Related Professions/SUNY Downstate, Brooklyn, NY, Health Information Management, 1988

SUNY Stony brook School of Medicine, Completed basic science curriculum; passed National Board of Medical Examiners (NBME) part I, 1983

M.S. SUNY Albany, Albany, NY, Teaching English as a Second Language, 1976

B.A. SUNY Albany, Albany, NY, French and Spanish, 1974

Include information below about courses taught, overall nature of workload assignment (including the percentage of time assigned to teaching, research, and service) and graduate student supervisory experience (theses/dissertations)

TEACHING ACTIVITIES (WITH EMPHASIS ON THE PAST FIVE YEARS)

Distance Learning

2004 - Distance Learning. Developed audio podcasts to supplement learning in HIMA 3113, 3118 (applied medical sciences I & II)

Course (New) - Creation/Delivery: Online

2007 - Course (New) - Creation/Delivery: Online. Developed an on line web based Bb version of COHE 6000: Health Care Systems and Problems. First delivered during summer session 1, 2007

2002 - Course (New) - Creation/Delivery: Online. Developed web based applied medical sciences course to be housed on publisher's WebCT platform. Ready for first HSIM entering class Fall 2003.

2000 - Course (New) - Creation/Delivery: Online. Designed an online web based Bb version of HIMA 3000: Medical Terminology for Health Professionals during spring 2000 for first use during summer session 1 2000

SCHOLARLY & PROFESSIONAL ACTIVITIES RELATED TO PROPOSED DEGREE (WITH EMPHASIS ON THE PAST FIVE YEARS)

Articles in Refereed Journals

Royal, P. & Bell, P. D. (2009). Leveling the playing field for on-line testing. *International Journal of Instructional Technology and Distance Learning*. May, 2009.

Bell, P. D., Brown, M. M., & Harris, S. T. (2008). The Profession of Health Information Management. *Chinese Journal of Rehabilitation Theory and Practice*, 14 (1), 18-20.

Royal, P. & Bell, P. D. (2008). The Relationship between Performance Levels and Test Delivery Methods. *International Journal of Instructional Technology and Distance Learning*, 5 (7), 43 -50.

Ross, T. K. & Bell, P. D. (2007). No Significant Difference: Only on the Surface. *International Journal of Instructional Technology and Distance Learning*, 4 (7).

Bell, P. D. (2007). Predictors of College Student Achievement in Undergraduate Asynchronous Web-based Courses. *Education*, 127 (4), 523-533.

Zeng, X. & Bell, P. D. (2007). Web 2.0: What a Health Care Manager Needs to Know. *Health Care Manager*, 27 (1), 1-13.

Bell, P. D. (2006). Can Factors Related to Self-regulated Learning and Epistemological Beliefs Predict Learning Achievement in Undergraduate Asynchronous Web-based Courses? *Perspectives in Health Information Management*, 3 (7).

Bell, P. D. & Akroyd, D. (2006). Can Factors Related to Self- Regulated Learning Predict Learning Achievement in Undergraduate Asynchronous Web-based Courses? *International Journal of Instructional Technology and Distance Learning*. Oct., 2006

Bell, P. D., Heinan, M., & Hudson, S. (2004). Effect of Teaching/Learning Methodology on Effectiveness of a Web-Based Medical Terminology Course. *International Journal of Instructional Technology and Distance Learning*, 1, 55-63.

Bell, P. (2002). Body Language Blues: Know What Your Gestures Are Saying to Others. *Advance for Health Information Professionals*, 12, 16-17.

Bell, P. D. & Hudson, S. (2001). Equity in the Diagnosis of Chest Pain: Race and Gender. *American Journal of Health Behavior*, 25 (1), 60-71.

Bell, P. D., Heinan, M., & Hudson, S. (2001). Learning medical terminology in a traditional classroom versus the World Wide Web: Is there a difference in PA student performance? *Perspective on Physician Assistant Education*, 12 (4), 232 - 235.

Bell, P. D. (2000). Standards and the Integrated Electronic Health Care Record. *The Health Care Manager*, 19 (1), 39-43.

Bell, P. D. (1999). Evaluating the Use of Computer-Assisted Instruction in Allied Health Professional Education: A Review of the Literature. *Educational Perspectives in Health Information Management*, 2(2), 29-40.

Bell, P. D., Micke, M., & Kasa, M. (1998). Equity in the Diagnosis and Treatment of Chest Pain: Gender, Age, Comorbidity. *American Journal of Health Behavior*, 22 (6), 443 -450.

Articles not refereed (i.e. invited, editorial)
Zeng, X. & Bell, P. D. (2007). Web 2.0: What a Speech and Hearing Professional Needs to Know. *American Speech-Language-Hearing Association*, 17 (3).

Refereed Proceedings

Full Paper
Bell, P. (2002). Learning Medical Terminology on the Web: A High Tech Correspondence Course. Breaking Boundaries for Global Learning, *Ninth Annual EDiNEB International Conference*, 56.

Bell, P. (1998). Equity in the Diagnosis and Treatment of Chest Pain: Influence of Age, Race, Gender, and Comorbidity. *1999 Assembly on Education Summer Symposium: Proceedings*, 5 - 5

Abstract Only

Bell, P. (2000). Chest Pain Research: Data Analysis to Improve Patient Care.   Data Driven Knowledge Bound: *2000 AHIMA Convention*, 309 - 324.

Non-Refereed Proceedings

Full Paper

Bell, P. D. (2008). Self-regulated learning and Epistemological beliefs. ECU Center for Faculty Excellence/Scholarship of Teaching and Learning.

Published Chapter

Bell, P. D. (2010). "Self-regulated learning matters in asynchronous web based learning", In Jesus de la Fuente Aria and Mourad Ali Essa (Eds.) *International Handbook of Self Regulated Learning in Different Settings*, (pp. 455- 475). Almeria, Spain: Education & Psychology I+D+i e-publishing.

Bell, P. (2001). "Chapter 10, Electronic Information and Security", In Murray, Maureen , Esq. (Ed.) *Legal Reference Manual*, (pp. 10.0 - 10.15). Greensboro, NC: The North Carolina Health Information Management Association.

Research Grants

<u>Funded</u>

2008: Zeng, X. & Bell, P. D., The Determination of Reasons and Solutions for Low Quality ICD-9-CM Coding in Cardiovascular Cases: A Qualitative Approach ($12,774.00), East Carolina University Graduate Research and Study.

2008: Zeng, X. & Bell, P. D., Development of a New Graduate Certificate Program in Health Informatics at ECU ($50,000.00), UNC General Administration.

<u>Not funded</u>

2010: Royal, P. & Bell, P. D., Letter of Inquiry for Grant Support, Standardizing Test Performance between Distance Education and Traditional Students, PRI-Alfred P. Sloan Foundation.

SERVICE: PROFESSIONAL

Chair: Committee / Task Force
2008: Chair Formal Education Committee, National Cancer Registrars Association, board of professional development, formal education committee, chair (National).

Member: Committee/Task Force
2009 – 2011: CAHIIM Panel of Reviewers, Member of e-accreditation web- based review team. Perform self-assessment documentation review (National).

2009 – 2010: FORE Scholarship Review Committee for 2009, Review scholarship applications as well as applications for Dissertation Research Awards (National).

Other Professional Service Activities
2009: AHIMA FORE Directed Research Project, Co-Principal Investigator with Dr. Xiaoming Zeng on 'Improving the Code Assignment Accuracy of Historically Problematic Codes.' The previous phase identified excisional debridement as a problematic code category warranting further study. The objective of the present phase is to reduce confusion associated

with assigning the excisional debridement code by improving the ICD9-CM coding guideline (National).

2007: AHIMA FORE Directed Research Project, Co-Principal Investigator with Dr. Xiaoming Zeng on 'Improving the Code Assignment Accuracy of Historically Problematic Codes.' (National).

Presentation
2004 – 2007: HSIM Student Orientation, Effective learning on the Internet. Tips on how to be an effective asynchronous web-based learner, Greenville, North Carolina (Local).

OTHER

2006: 78th AHIMA Assembly on Education Conference, Social Software: Hype or Help for Distance Education? Co-presented with colleague: Dr. Xiaoming Zeng, Nashville, Tennessee (National).

2005: ECU Office of Academic Outreach think-in: Teaching with Technology, Using Podcasts to Reel Them In!! Poster and presentation about using podcasts to deliver instructional content in a web based HSIM applied medical sciences course, Greenville, North Carolina (Local).

Reviewer - Article / Manuscript
2009 – 2010: Electronic Journal of Research in Educational Psychology (EJREP), Reviewer for the manuscript entitled, Is there a relationship between pre-service teachers' mathematical values and their teaching anxieties in mathematics? (International).

2005: Article/manuscript reviewer, The Illness Perceptions of Women Following Acute Myocardial Infarction: Implications for Behavior Change and Attendance at Cardiac Rehabilitation, Women & Health, 42(4) 2005, none, Virtual (National).

Reviewer: Ad Hoc Reviewer for a Journal
2009 – 2010: Editorial review board of Perspectives in Health Information Management (PHIM) (National).

2007 – 2009: Editorial review board of Perspectives in Health Information Management (PHIM) (National).

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ACADEMIC BACKGROUND

Ed.D. University of Pittsburgh, Pittsburgh, Pennsylvania, Instructional Design and Technology, 1999

M.L.S. University of Pittsburgh, Pittsburgh, Pennsylvania, Library and Information Science, 1989

B.A. Bethany College, Bethany, West Virginia, Politics and Public Policy, 1986

Include information below about courses taught, overall nature of workload assignment (including the percentage of time assigned to teaching, research, and service) and graduate student supervisory experience (theses/dissertations)

Teaching Activities (with emphasis on the past five years)

Distance Learning
2009 – Present. COHE 6410 Electronic Health Records
2009 – Present. COHE 6430 Database Systems in Health Care
2008 – Present. HIMA 4138 Health Data Structures
2007 – Present. HSMA 4010 Health Information Management

Face to Face
2008 – Present. HIMA 4138 Health Data Structures
2007 – Present. HSMA 4010 Health Information Management

SCHOLARLY & PROFESSIONAL ACTIVITIES RELATED TO PROPOSED DEGREE (WITH EMPHASIS ON THE PAST FIVE YEARS)

Articles in Refereed Journals

Campbell, R. J. & Sasnett, B. (2011). Using Service Learning to Teach Teamwork and Peer Learning Skills to Health Services and Information Management Students. *Journal of Health Administration Education*.

Campbell, R. J. (2009). Creating a Winning Organizational Culture. *The Health Care Manager*, 28 (4), 328-343.

Campbell, R. J. (2009). Internet-Based Health Information Seeking Among Low-Income, Minority Seniors Living in Urban Residential Center. *Home Health Care Management & Practice*, 21 (3), 195- 202.

Campbell, R. J., Gantt, L., & Congdon, T. (2009). Teaching Workflow Analysis and Lean Thinking Via Simulation: A Formative Evaluation. *Perspectives in Health Information Management*.

Campbell, Robert James. "Thinking Lean in Healthcare" *Journal of AHIMA* 80, no.6 (June 2009): 40-43.

Campbell, R. J. (2008). Change Management in Health Care. *The Health Care Manager*, 27 (1), 23-39.

Campbell, R. J. (2008). Meeting Seniors' Information Needs: Using Computer Technology. *Home Health Care Management & Practice*, 20 (4).

Paper Presentations-Refereed

Local
Zeng, X. & Campbell, R. J. (2008, February). Personal Health Records in Rural Communities. *Mills Symposium*, Greenville, North Carolina.

National
Campbell, R. J. (2010, July). Using Centra to Create an Interactive Learning Environment for Distance Learners. *American Health Information Association Assembly on Education Symposium*, New Orleans, Louisiana.

Campbell, R. J. (2010, July). Turning a Video Simulation into a Simulated Game to Teach Workflow Analysis and Lean Thinking. *American Health Information Management Association Assembly on Education Symposium*, New Orleans, Louisiana.

Campbell, R. J. (2009). Teaching Workflow Analysis and Lean Thinking Via Simulation. *American Health Information Management Assembly on Education Summer Symposium*, Las Vegas, Nevada.

Zeng, X. & Campbell, R. J. (2009). Teaching Health Information Globally. *American Health Information Management Assembly on Education Summer Symposium*, Las Vegas, Nevada.

Campbell, R. J. (2008, July). Integrating Change and Transition Management in a Health Information Management Course. *American Health Information Management Association Assembly on Education Symposium*, Louisville, Kentucky.

Campbell, R. J. (2008, July). Teaching Creativity Skills to Health Information Management Students. *American Health Information Management Association Assembly on Education: Faculty Development Institute*, Louisville, Kentucky.

Campbell, R. J. (2007, October). Using Computer Based Technology to Increase Adherence to Health Communications Policy Within A Nurse Managed Wellness Center. *Nurse-Managed Health Centers: Policy Solutions to Improving Health Care for All 2007 Conference*, Washington, District of Columbia.

State
Campbell, R. J. (2008). Health Information Literacy and Older Adults. *7th Annual North Carolina Conference on Aging*, Greenville, North Carolina.

Research Grants

Funded
2010: Velde, B. & Campbell, R. J. , The Jean Mills Health Symposium, Pitt County Memorial Hospital Foundation Community Benefits and Health Initiatives Grant.

2010: Sasnett, B. & Campbell, R. J., Health Professional Education: Venue for Collaboration and Community Service ($2,500.00), Association of American Colleges and Universities.

Not Funded
2008: Resick, L., Campbell, R. J., Tamenne, B., Gross, C., & Paraska, K., Older Adults and the Internet - Focus Group Project.

SERVICE: PROFESSIONAL

Other Professional Service Activities
2008 – 2009: CAHIIM Panel of Reviewers - AHIMA, Panel of Accreditation Reviewer. Serves as a representative of the Commission on Accreditation of Health Informatics and Information Management Education (CAHIIM) and as a consultant who reviews initial and continuing educational programs in health information management at the associate, baccalaureate and master's degree levels. Reviewers provide program information and reports to the Commission for accreditation actions, Chicago, United States of America (National).

Presentation
2008: NC AHEC 2008 Future Leaders in Healthcare Conference at East Carolina University, Along with Dr. Xiaoming Zeng.

OTHER: AWARDS

2011: Board of Governors Distinguished Professor for Teaching Award.
2011: Finalist, Max Ray Joyner for Faculty Service through Continuing Education Award.

2009: Dean's Award: For Outstanding Performance in Teaching.

Leigh Cellucci, Ph.D.
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Health Services and Information Management
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Celluccie@ecu.edu

ACADEMIC BACKGROUND

Ph.D., Sociology, University of Virginia, Charlottesville, VA, 1989

MBA, Idaho State University, Pocatello, ID, 2002

Include information below about courses taught, overall nature of workload assignment (including the percentage of time assigned to teaching, research, and service) and graduate student supervisory experience (theses/dissertations)

TEACHING ACTIVITIES (WITH EMPHASIS ON THE PAST FIVE YEARS)

Distance Learning
2011 - Distance Learning. Centra Workshop. Attended on March 28, 2011.

2011 - Distance Learning. Blackboard 9 Training, Jean Merenda. Attended on March 29, 2011

Other Teaching Activities
2011 - Other Teaching Activities. Peer Observation--Evaluation
Training, January 21, 2011

SCHOLARLY & PROFESSIONAL ACTIVITIES RELATED TO PROPOSED DEGREE (WITH EMPHASIS ON THE PAST FIVE YEARS)

Articles in Refereed Journals
Cellucci, L. W., Benson, K., & Farnsworth, T. (in press, 2011). Health Information Technology, Patient Flow, and the New Manager: Evaluation of Three Clinics. *Annual Advances in Business Cases*, in press.

Cellucci, L. W., Hatzenbuehler, L., Crawford, B., Wiggins, C., & Farnsworth, T. (2010). The Program Director and Crisis Management. *Journal of Critical Incidents*, 3, 128-134.

Trimmer, K., Cellucci, L. W., Wiggins, C., & Woodhouse, W. (2009). Electronic Medical Records: TAM, UTAUT, and Culture. *International Journal of Health Information Systems and Informatics*, 4 (3), 55-68.

Farnsworth, T., Cellucci, L. W., Wiggins, C., Peterson, R., & Lusk, W. (2009). Klamath Care: Targeting and Managing Growth. *Annual Advances in Business Cases*, 28, 102-117.

Cellucci, L. W. & Hatzenbuehler, L. (2009). Pornography and The University Computer. *Journal of Critical Incidents*, 2, 89-96.

Cellucci, L. W., Cellucci, T., Bezik, M., & Nelson, E. (2009). Should a Professional Association Prohibit Its Members From Helping the Government: the APA Interrogation Debate. *Journal of Critical Incidents*, 2, 124-131.

Cellucci, L. W., Moses, C., & Probeck, B. (2009). Teaching Healthcare Management via Interactive Simulation: The MGMA VPM. *Journal of Health Administration Education*, 26 (1), 63-74.

Refereed Proceedings

Full Paper

Cellucci, L. W., Trimmer, K., Farnsworth, T., & Waldron, A. (2011). The Implementation of a Health-IT Academic Focus: A Case Study. *44th Hawaii International Conference on System Sciences*.

Farnsworth, T. & Cellucci, L. W. (2011). The Decision to Admit or Not to Admit. *47th Annual MBAA Annual Meetings*.

Cellucci, L. W. & Farnsworth, T. (2011). HIPAA and the Family Tree Clinics. *47th Annual MBAA Annual Meetings*.

Cellucci, L. W., Benson, K., & Farnsworth, T. (2010). Health Information Technology, Patient Flow, and the New Manager: Evaluation of Three Clinics. *Society for Case Research Summer Workshop Meetings.*

Farnsworth, T., Cellucci, L. W., Wiggins, C., Peterson, R., & Lusk, W. (2009). Klamath Care: Targeting and Managing Growth. *Annual Society for Case Research Summer Workshop*.

Book/Textbook
Cellucci, L. W., Wiggins, C., & Farnsworth, T. (2011). *Essential Techniques for Healthcare Marketing Professionals,* Chicago, IL: Health Administration Press.

Cellucci, L. W. & Wiggins, C. (2010). *Essential Techniques for Healthcare Managers*, Chicago, IL: Health Administration Press.

Manual (reference/solutions/user)

Cellucci, L. W. & Wiggins, C. (2010). Instructors' Manual for Essential Techniques for Healthcare Managers, Chicago, IL: Health Administration Press.

Published Chapter

Cellucci, L. W., Wiggins, C., & Trimmer, K. (2011). "EMR Implementation and the Import of Theory and Culture", In Hannah Abelbeck (Ed.) New Technologies for Advancing Healthcare and Clinical Practices. Hershey, PA: IGI Global.

Paper Presentations-Refereed

International

Cellucci, L. W., Trimmer, K., Farnsworth, T., & Waldron, A. (2011). The Implementation of a Health-IT Academic Focus: A Case Study. *44 Hawaii International Conference on System Sciences*, Kauai, Hawaii.

Cellucci, L. W. & Farnsworth, T. (2011). HIPAA and the Family Tree Clinics. *47th Annual MBAA Annual Meeting*, Chicago, Illinois.

Farnsworth, T. & Cellucci, L. W. (2011). The Decision to Admit or Not to Admit. *47th Annual MBAA Annual Meeting*, Chicago, Illinois.

Cellucci, L. W. & Farnsworth, T. (2010). Case Studies and Critical Incidents: Methodologies that Help Students Improve Critical thinking Skills and Become Better Team Players. *Association of University Programs in Health Administration Annual Meetings*, Portland, Oregon.

Cellucci, L. W., Benson, K., & Farnsworth, T. (2010). Health Information Technology, Patient Flow, and the New Manager: Evaluation of Three Clinics. *Society for Case Research Summer Workshop Meeting*, Hanover, Indiana.

Oetjen, R., Cellucci, L. W. , & Landry, A. (2010). How the Mind Works and What it Means for the Classroom. *Association of University Programs in Health Administration Annual Meeting*, Portland, Oregon.

Cellucci, L. w., Hatzenbuehler, L., Crawford, B., Wiggins, C., & Farnsworth, T. (2009, April). The Program Director and Crisis Management. *46th Annual MBAA Meeting*, Chicago, Illinois.

Farnsworth, T., Cellucci, L. W., & Wiggins, C. (2009). Leadership Learning and Collaborative Efforts. *Association of University Programs in Health Administration Annual Meeting*, Chicago, Illinois.

ECU, *Master of Science in Health Informatics and Information Management*, 64

Farnsworth, T., Cellucci, L. W., Wiggins, C., Peterson, R., & Lusk, W. (2009, June). Klamath Care: Targeting and Managing Growth. *Annual Society for Case Research Summer Workshop*, Nashville, Tennessee.

State
Smith, J. & Cellucci, L. W. (2011). Idaho Center for Disabilities Evaluation: Follow-up Study on Limiting Developmental Disabilities Agency Services Hours and the Impact on Adult Participants. *Annual Research Symposium Idaho State University* 2011, Pocatello, Idaho.

Smith, J., Cellucci, L. W., & Hatzenbuehler, L. (2010, April). Limiting Developmental Disabilities Agency Services Hours and the Impact on Adult Participants. *Annual Research Symposium Idaho State University*, Pocatello, Idaho.

Smith, J., Cellucci, L. W., & Hatzenbuehler, L. (2009, April). Older Adults Have Significant Impact on Idaho Developmental Disabilities Medicaid Program. *Annual Research Symposium Idaho State University*, Pocatello, Idaho.

SERVICE: PROFESSIONAL

Board Member: PRJ Editorial Review Board

2011: Journal of Critical Incidents (International).

2009 – 2011: Journal of Critical Incidents (International).

Board of Directors: Moderate Involvement
2010: Society for Case Research (International).

Board of Directors: Substantial Involvement
2011: Society for Case Research (International).

Chair: Committee / Task Force
2010: Association of University Programs in Health Administration (AUPHA), Chair, Undergraduate Program Certification, AUPHA, Portland, Oregon (International).

2009: Association of University Programs in Health Administration, Judge for Poster Submissions, on-site, Portland, Oregon (International).

2009: Association of University Programs (AUPHA), Chair, Undergraduate Certification Committee, AUPHA, Chicago, Illinois (International).

Chair: Conference / Track / Program
2011: Association of University Programs in Health Administration, Undergraduate Planning Committee for UPC meeting (International).

Editor: Academic PRJ
2012: Annual Advances in Business Cases (International).

Editor: Associate Editor
2010: Annual Advances in Business Cases (International).

Invited Lecture
2010: BHAA annual meetings invited lecture, BHAA Business and Health Administration Association; co-presenter with Wiggins. 'Essential Techniques for Healthcare Managers', Chicago, Illinois (International).

Member: Committee/Task Force
2011: Association of University Programs in Health Administration, AUPHA, Criteria review Committee, member (International).

2011: Association of University Programs in Health Administration, AUPHA Knowledge Group, Member (International).

2011: Association of University Programs in Health Administration, Undergraduate Planning Committee member (International).

2010 – 2011: Association of University Programs in Health Administration, AUPHA knowledge group, member (International).

2010: Association of University Programs in Health Administration, AUPHA Nominating Committee, member (International).

2010: Association of University Programs in Health Administration, Member, Undergraduate planning committee (International).

2009: Association of University Programs in Health Administration, AUPHA, knowledge group, member (International).

2009: Association of University Programs in Health Administration, member, undergraduate planning committee (International).

2009: Association of University Programs in Health Administration, Judge, poster submissions, annual committee and judge on-site, Chicago, Illinois (International).

2009: Association of University Programs in Health Administration, Member, AUPHA Annual Meeting Planning Committee, Chicago, Illinois (International).

Other Professional Service Activities

ECU, *Master of Science in Health Informatics and Information Management*, 66

2010: Program Reviewer for EWU--HISM, HISM Program reviewer for Eastern Washington University (with Ken Trimmer) (Regional).

Reviewer - Article / Manuscript
2011: Annual Advances in Business Cases (International).

2011: Journal of Critical Incidents (International).

2011: Annual Advances in Business Cases (International).

2011: Reviewer Society for Case Research Annual Meetings (International).

2010: journal of health administration education (International).
2009: Annual Advances in Business Cases (International).

2009: Journal of Critical Incidents (International).

2009: Journal of Critical Incidents (International).

2008 – 2009: Annual Advances in Business Cases (International).

Reviewer - External Tenure
2008: Peer Review External Tenure, St Joseph's University (National).

OTHER

2011: 44 Hawaii International Conference on System Sciences, Reviewer for IT Adoption and Evaluation in Health Care Mini-track (International).

2009: 43 Hawaii International Conference on System Sciences, Reviewer for IT Adoption and Evaluation in Health Care Mini-track (International).

Susie T. Harris, PhD, MBA, RHIA, CCS
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ACADEMIC BACKGROUND

PhD, East Carolina University, Greenville, NC, USA, Rehabilitation Studies, 2008

MBA with health care certificate, East Carolina University, Greenville, NC, USA, 1997

BS, East Carolina University, Greenville, NC, USA, Health Information Management,1989

Include information below about courses taught, overall nature of workload assignment (including the percentage of time assigned to teaching, research, and service) and graduate student supervisory experience (theses/dissertations)

TEACHING ACTIVITIES (WITH EMPHASIS ON THE PAST FIVE YEARS)

Course (Existing) - Compensated Redesign

2010 -Course (Existing) - Compensated Redesign. HIMA 3032 - Study of the origin, content, and format of health records across the continuum of care.

2010 - Course (Existing) - Compensated Redesign. COHE 6000 - Healthcare Systems and Problems taught during Summer Session I, 2010. This course introduces the MBA/graduate student who is interested in health care management to the study of the continuum of care which describes our health care delivery system.

2010- Course (Existing)- Compensated Redesign. HIMA 3148- Coding services and procedures according to the Healthcare Common Procedure Coding System and for reimbursement Guest speaker spoke on Evaluation and Management Coding (2005 HIM Graduate).

2010 - Course (Existing) - Compensated Redesign. HIMA 4153 -Theoretical and practical applications of the managerial functions of planning, organizing, and controlling in a health information services department.

2010 - Course (Existing) - Compensated Redesign. HIMA 3142- Coding of diseases and procedures by 'International Classification of Diseases.' Turning Point, an automated response system, is used for lecture and test reviews.

2010 -Course (Existing) - Compensated Redesign. COHE 6600 - Management of Healthcare Operations co-taught the last half of this course with Dr. Pat Royal during fall, 2010. We

caught up the grading on several assignments as well as forthcoming and current assignments. Dr. Robert Kulesher taught the first part of this course and went out on medical leave.

2009- Course (Existing) - Compensated Redesign. HIMA 3032 - Study of the origin, content, and format of health records across the continuum of care. Maintained up-to-date course syllabus, schedule, content and structure of course.

2008- Course (Existing) - Compensated Redesign. HIMA 3148- Coding services and procedures according to the Healthcare Common Procedure Coding System and for reimbursement.

2008- Course (Existing)- Compensated Redesign. HIMA 4153- Theoretical and practical applications of the managerial functions of planning, organizing, and controlling in a health information services department.

2008 - Course (Existing) - Compensated Redesign. HSMA 4050 - Managerial theory and application, including management styles, personnel records and management, staff development, work re-design, ergonomics, and departmental performance assessment.

2008- Course (Existing) - Compensated Redesign. HIMA 4153- Theoretical and practical applications of the managerial functions of planning, organizing, and controlling in a health information services department.

2008- Course (Existing) - Compensated Redesign. HIMA 3032- Study of the origin, content, and format of health records across the continuum of care.

Course (New) - Creation/Delivery: Conventional
2009- Course (New)- Creation/Delivery: Conventional. HIMA 3142- Coding of diseases and procedures by 'International Classification of Diseases.'

Other Teaching Activities
2011 -Other Teaching Activities. I peer reviewed a course, OCCT 6005, Health Impairments and Occupational Therapy, for Denise Donica on 2/14/11. Results were reviewed with Denise Donica on 2/24/11.

2011 -Other Teaching Activities. Quick Start to Online Teaching. The Quick Start to Online Teaching presentation helped to build a collaborative, interactive and engaging learning experience for technology-hungry students. The presentations facilitated breathing new life into your courses 3/3/11.

2011 -Other Teaching Activities. Peer review by Dr. Michael Kennedy was performed during summer session I (2010), Dr Kennedy peer reviewed a course, COHE 6000, Health Care Systems and Problems (section 001).

2010- Other Teaching Activities. Peer review by Dr. Mary Crozier was performed on 10/12/10. Dr. Crozier peer reviewed a course, HIMA 4153, Management of a Health Information Services Department (sections 001 and 601).

2010 - Other Teaching Activities. Gearing up for ICD-10-CM/PCS Workshop.

2010 - Other Teaching Activities. Student, Regina Glenn, was working on her dissertation for her Ph.D. degree from the School of Education at Capella University located in Minneapolis, Minnesota under the direction of Dr. Elizabeth Bruch. She is an HIM program director and interested in identifying the competencies needed by acute care coders and identifying appropriate training and/or education programs to develop these competencies for the new ICD-10-CM and ICD-10-PCS classification systems.

2010- Other Teaching Activities. Peer review by Dr. Tom Ross was performed on 10/13/10. Dr. Ross peer reviewed a course, HIMA 3148, Health Services Coding (section 001).

2010- Other Teaching Activities. AHIMA Academy for ICD-10-CM/PCS: Building Expert, Trainers in Diagnosis and Procedure Coding, New Orleans, LA.

2010 - Other Teaching Activities. I peer reviewed a course, COHE 6000, Health Care Systems and Problems, for Dr. Michael Kennedy during the weeks of 6/21/10 and 8/30/10. Results were reviewed with Dr. Kennedy on 9/2/10.

2009- Other Teaching Activities. Peer reviews were performed in February. Dr. Michael Kennedy peer reviewed a campus section of HIMA 3142, Diagnostic and Procedural Coding, on 2/16/09. Dr. Kennedy discussed his review with me on 2/18/09.

2009- Other Teaching Activities. Dr. Pat Royal peer reviewed an online course, HIMA 3032, Record Documentation Systems, during the week of 2/23/09. Dr. Royal discussed her review with me on 2/24/09.

2007- Other Teaching Activities. Peer reviews were performed during the week of 1/22/07 by two faculty members. My next peer reviews will be scheduled for the spring semester in 2009.

SCHOLARLY & PROFESSIONAL ACTIVITIES RELATED TO PROPOSED DEGREE (WITH EMPHASIS ON THE PAST FIVE YEARS)

Articles in Refereed Journals

Harris, S. T., Wong, D., & Musick, D. (2010). Spirituality and Well-Being among Persons with Diabetes and Other Chronic Disabling Conditions: A Comprehensive Review. *Journal of Complementary and Integrative Medicine.* Vol. 7: Iss. 1, Article 27

Harris, S. T. & Zeng, X. (2010). Using an Audience Response System (ARS) in a Face-to-Face and Distance Education CPT/HCPCS Coding Course. *Perspectives in Health Information Management*. Winter (7)

Teslow, M., Harris, S. T. , & Denise, W. (2009). Street Smart: Understanding the Context of Emergency Medical Services Communication and Documentation. *Journal of the American Health Information Management Association*. 80(3):46-9

Harris, S. T. & Pokorny, M. E.(2008). Experience of Teaching in a Diabetes Program. *Health Care Manager*, 28 (1), 65-70.

Harris, S. T. & Kulesher, R. (2008). The Importance of Encounter Form Design. *Health Care Manager*, 28 (1), 75-80.

Bell, P. D., Brown, M. M., & Harris, S. T. (2008). The Profession of Health Information Management. *Chinese Journal of Rehabilitation Theory and Practice*, 14 (1).

Harris, S. T. & Zeng, X. (2008). Using Wiki in an Online Record Documentation Systems Course. *Perspectives in Health Information Management*, 5 (1).

Culbertson, D. & Harris, S. T. (2007). Are We Coming Back to AR? *Perspectives on Administration and Supervision.*

Harris, S. T. & Kulesher, R. R. (2006). Managed care and the bottom line of your practice. *Health Care Manager*, 25 (3), 228-232.

Zeng, X. & Harris, S. T. (2005). Blogging in an Online Health Information Technology Class. *Perspectives in Health Information Management*, 2 (6).

Book/Textbook

Harris, S. T. (2011). The Health Care Manager's Guide to ICD-10 Jones and Bartlett (Proposed)

Working Papers

Harris. S.T. & Pokorny, M. (2011). Living with Diabetes: Qualitative Analysis. Plan to submit to the Journal of Christian Nursing.

Paper Presentations-Refereed

International
Harris, S. T. & Wong, D. (2010, May). Diabetes: A Hidden Disability. *Pacific Rim 25th Annual Conference on Disabilities*, Honolulu, Hawaii.

Local

Harris, S. T. (2008, November). Analysis of a county educative program for persons with diabetes. *Rehabilitation and Allied Health Research Day*, Greenville, North Carolina.

Harris, S. T. & Sligar, S. (2008, February). Analysis of a county educative program for persons with diabetes. *2008 Mills Symposium*, Greenville, North Carolina.

Harris, S. T. (2007, November). Does the health condition of people who have diabetes significantly improve when spirituality is applied as a coping mechanism? *Rehabilitation and Allied Health Research Day*, Greenville, North Carolina.

Harris, S. T. (2007, February). Does the health condition of people who have diabetes significantly improve when spirituality is applied as a coping mechanism? *Mills Symposium*, Greenville, North Carolina.

Harris, S. T. (2006, November). Does the health condition of people who have diabetes significantly improve when spirituality is applied as a coping mechanism? *Rehabilitation and Allied Health Research Day*, Greenville, North Carolina.

National

Harris, S. T. & Zeng, X. (2009, July). Using an Audience Response System (ARS) in a Face-to-Face and Distance Education CPTIHCPCS Coding Course. *AHIMA AOE*, Las Vegas, Nevada.

Harris, S. T. (2008, July). Web 2.0 for Online Education. *AHIMA AOE*, Louisville, Kentucky.

Harris, S. T. (2007, August). Web 2.0: Technologies and Applications for Online Education. *AHIMA AOE*, Chicago, Illinois.

Regional

Harris, S. T. & Rhee, H. (2010). ICD-10-CM and ICD-10-PCS: It's a Good Thing! *NCHIMA Coastal Carolina Region Meeting*, Greenville, North Carolina.

Harris, S. T. (2010). Korean ICD-10 and our ICD-10-CM and ICD-10-PCS. *NCHIMA Coding Roundtable*, Rutherford, North Carolina.

Harris, S. T. & Rhee, H. (2009). ICD-10-CM and ICD-10-PCS. *NCHIMA Southeastern Regional Meeting*, Fayetteville, North Carolina.

Harris, S. T. & Kulesher, R. R. (2009). Managed Care and the Medical Office. *NCHIMA Coastal Carolina Region Meeting*, Greenville, North Carolina.

State

ECU, *Master of Science in Health Informatics and Information Management*, 72

Harris, S. T. & Kulesher, R. R. (2009). The Importance of Encounter Form Design. *NCHIMA Annual Meeting*, Greenville, North Carolina.

Harris, S. T. (2007, November). Analysis of NCVR Client Satisfaction Survey Data. *North Carolina Vocational Rehabilitation Office*, Raleigh, North Carolina.

RESEARCH GRANTS

Not Funded

2007: Harris, S. T., The Impact of Spirituality on Diabetes Health Outcomes in Eastern North Carolina, This study will explore the impact of spirituality and its potential contribution on the health conditions of persons with diabetes, NC Wellness and Trust Fund.

SERVICE: PROFESSIONAL

Academic Conference: Moderator I Facilitator

2010: Gearing up for ICD-10-CM/PCS, Gearing up for ICD-10-CM/PCS (8/12/10 & 8/13/10 at AHEC) ABOUT THE WORKSHOP: The focus of the workshop was on engaging coding professionals with in-class ICD-10-CM/PCS coding exercise examples. Participants gained ICD-10-CM/PCS experience from experts in the field. The presenters provided valuable information that will guide you through the steps of transitioning and coding using the ICD-10-CM/PCS system.

Member: Committee/Task Force
2009- 2011: North Carolina Healthcare Information and Communications Alliance, Inc. (NCHICA),

2009-2011: AHIMA CourseShare, AHIMA CourseShare is an exclusive online destination for HIM educators promoting excellence in teaching by providing free learning materials and resources that make exceptional teaching possible.

2009-2011: AHIMA Approval Committee for Certificate Programs (ACCP), AHIMA's Coding Basics program is approved by the Approval Committee for Certificate Programs (ACCP). This designation acknowledges the Coding Basics program as having been evaluated by a peer review process against a national minimum set of standards for entry-level coding professionals.

2004 - 2010: North Carolina Health Information Management Association.

2008- 2009: NCHIMA Awards and Nominations Committee, Solicit nominees for NCHIMA awards and assist in deciding award winners, Greenville, Virtual.

Officer: Organization I Association

2010: North Carolina Health Information Management Association, Served on the NCHIMA Executive Board as the College of Allied Health Liaison. http://www.nchima.org/ExecutiveBoard/ExecutiveBoard.html.

Other Professional Service Activities

2008 - 2011: North Carolina Health Information Management Association, NCHIMA member since 1988.

2004- 2011: Medical Group Managers Association, MGMA member since 1999.

2010: Gearing up for ICD-10-CM/PCS, Organized and arranged Gearing up for ICD-10-CM/PCS Two day workshop (August 12 & 13, 2010).

2008: American Health Information Management Association, Member of AHIMA since 1988, Chicago, Illinois. ·

Reviewer –Article/Manuscript

2010: AHIMA Approval Committee for Certificate Programs (ACCP), AHIMA Approval Committee for Certificate Programs, ACCP Peer Reviewers serve by analyzing Coding Program Application Reports that identify the nature and type of curriculum offered to students who enroll in their coding programs. Reviewers will receive application data by mail and will review and advise as to the feasibility of accepting the program for AHIMA Coding Program Approval.

2008-2010: AHIMA Approval Committee for Certificate Programs, ACCP Peer Reviewers serve by analyzing Coding Program Application Reports that identify the nature and type of curriculum offered to students who enroll in their coding programs. Reviewers will receive application data by mail and will review and advise as to the feasibility of accepting the program for AHIMA Coding Program Approval.

Michael Kennedy, MHA, Ph.D.
Associate Professor
Health Services and Information management
College of Allied Health Sciences
kennedym@ecu.edu

ACADEMIC BACKGROUND

Ph.D. Rensselaer Polytechnic Institute, Troy, New York, USA, Decision Sciences and Engineering Systems, 1992

M.S. Rensselaer Polytechnic Institute, Troy, New York, USA, Operations Research and Statistics, 1990

M.H.A. Baylor University, Waco, Texas, USA, Health Administration, 1985

M.A. Webster University, St. Louis, Missouri, USA, Public Administration, 1978

B.A. North Carolina State University, Raleigh, North Carolina, USA, Psychology, 1976

Include information below about courses taught, overall nature of workload assignment (including the percentage of time assigned to teaching, research, and service) and graduate student supervisory experience (theses/dissertations)

TEACHING ACTIVITIES (WITH EMPHASIS ON THE PAST FIVE YEARS)

Course (New) - Creation/Delivery: Conventional

2009 - Course (New) - Creation/Delivery: Conventional. HSMA 4055- 001, Healthcare Finance and Accounting. This course provides an overview of departmental financial management and accounting functions as applied to healthcare environments. Topics include inventory control, budgeting, cost analysis, resource allocation, capital expenditures, and financial forecasting.

2009 - Course (New) - Creation/Delivery: Conventional. HSMA 3020-001, Health Care Payment Systems. Overview of payment systems in health care across the continuum of care.

2008 - Course (New) - Creation/Delivery: Conventional. HSMA 3020-001, Health Care Payment Systems. Overview of payment systems in health care across the continuum of care.

2008 - Course (New) - Creation/Delivery: Conventional. HSMA 4055- 001, Healthcare Finance and Accounting. This course provides an overview of departmental financial management and accounting functions as applied to healthcare environments. Topics include

inventory control, budgeting, cost analysis, resource allocation, capital expenditures, and financial forecasting.

2007 - Course (New) - Creation/Delivery: Conventional. HSMA 4055-001, Healthcare Finance and Accounting. This course provides an overview of departmental financial management and accounting functions as applied to healthcare environments. Topics include inventory control, budgeting, cost analysis, resource allocation, capital expenditures, and financial forecasting.

Course (New) - Creation/Delivery: Online

2009 - Course (New) - Creation/Delivery: Online. HSMA 3020-601, Health Care Payment Systems. Overview of payment systems in health care across the continuum of care.

2009 - Course (New) - Creation/Delivery: Online. COHE 6450, Decision Support in Health Care. Theories and applications of decision science in health care. Prerequisites: HIMA 5060, Health Informatics, or consent of Instructor.

2009 - Course (New) - Creation/Delivery: Online. HSMA 4055-601, Healthcare Finance and Accounting. This course provides an overview of departmental financial management and accounting functions as applied to healthcare environments. Topics include inventory control, budgeting, cost analysis, resource allocation, capital expenditures, and financial forecasting.

2008 - Course (New) - Creation/Delivery: Online. HSMA 4070-601, Outcomes Assessment and Management in Health Care. Survey of outcomes research that includes methods, cost effectiveness, measurement, decision support, quality of life, and improvement management.

2008 - Course (New) - Creation/Delivery: Online. HSMA 3020-601, Health Care Payment Systems. Overview of payment systems in health care across the continuum of care.

2008 - Course (New) - Creation/Delivery: Online. COHE 6000-601, Health Care Systems and Problems. Advanced study of contemporary health care problems. Evolution, philosophy, and present and future trends of our health care system. Emphasis on health policy and practices of community health service institutions and agencies.

2008 - Course (New) - Creation/Delivery: Online. HSMA 4055-601, Healthcare Finance and Accounting. This course provides an overview of departmental financial management and accounting functions as applied to healthcare environments. Topics include inventory control, budgeting, cost analysis, resource allocation, capital expenditures, and financial forecasting.

2007 - Course (New) - Creation/Delivery: Online. HSMA 4070-601, Outcomes Assessment and Management in Health Care. Survey of outcomes research that includes methods, cost effectiveness, measurement, decision support, quality of life, and improvement management.

2007 - Course (New) - Creation/Delivery: Online. HSMA 4055-601, Healthcare Finance and Accounting. This course provides an overview of departmental financial management and accounting functions as applied to healthcare environments. Topics include inventory control, budgeting, cost analysis, resource allocation, capital expenditures, and financial forecasting.

Thesis / Dissertation Committee - Chair

2008 - Thesis / Dissertation Committee - Chair. 1 student, Doctoral Dissertation, Doctor of Health Administration Program, Central Michigan University

2007 - Thesis / Dissertation Committee - Chair. 1 student, Doctoral Dissertation, Doctor of Health Administration Program, Central Michigan University

2007 - Thesis / Dissertation Committee - Chair. 1 student, Doctoral Dissertation, Doctor of Health Administration Program, Central Michigan University

2006 - Thesis / Dissertation Committee - Chair. 1 student, Doctoral Dissertation, Doctor of Health Administration Program, Central Michigan University

Thesis / Dissertation Committee - Member

2008 - Thesis / Dissertation Committee - Member. 1 student, Doctoral Dissertation, Doctor of Health Administration Program, Central Michigan University

2008 - Thesis / Dissertation Committee - Member. 1 student, Doctoral Dissertation, Doctor of Health Administration Program, Central Michigan University

2007 - Thesis / Dissertation Committee - Member. 1 student, Doctoral Dissertation, Doctor of Health Administration Program, Central Michigan University

SCHOLARLY & PROFESSIONAL ACTIVITIES RELATED TO PROPOSED DEGREE (WITH EMPHASIS ON THE PAST FIVE YEARS)

Articles in Refereed Journals

Houlihan, R. H., Kennedy, M. H., Kulesher, R. R. , Lemon, S. C. , Wickerham, D. L. , Chung-Cheng Hsieh Dario C. Altieri, (2010). Identification of Accrual Barriers onto Breast Cancer Prevention Trials: A Case-Control Study. *Cancer*. 116(15):3569-76

Kennedy, M. (in press, 2010). Using Online Courseware to Play A Simulation Illustrating The Concept Of Moral Hazard In Healthcare. *International Review of Economics Education*.

Kennedy, M. H. (2009). Simulation Modeling for the Health Care Manager. Health Care Manager. Jul-Sep;28(3):246-52

Kennedy, M. H. (2009). Teaching Healthcare Reimbursement Systems Using System Dynamics Models. *International Journal of Instructional Technology and Distance Learning*. May, 2009.

Finley, F. R., Ivanitskaya, L. V., & Kennedy, M. H. (2007). Mentoring junior healthcare administrators: A description of mentoring practices in 127 U.S. hospitals. *Journal of Healthcare Management*, 52 (4), 260 - 69.

Articles not refereed (i.e. invited, editorial)

Kennedy, M. H. (2009). Volunteer to Help Others, Broaden Your Perspective, and Inform Your Teaching. *Journal of Health Administration Education*.

Book/Textbook
Johnson, J. A., Kennedy, M. H. , & Delener, N. (2005). Volume 2: A community of organizations: Roles, responsibilities, and collaboration to deter and respond to terrorism, Westport, Connecticut: Praeger.

Published Chapter
Kennedy, M. H. (2002). "Administrative decision support systems", Information technology in health care: An interdisciplinary approach, (pp. 576). St. Louis, Missouri: Mosby.

Paper Presentations-Refereed

National
Kennedy, M. H., Eisenhardt, A., & Wu, W. (2011). Using Games in the Classroom to Engage Students in Learning. Association of University Programs in Health Administration Annual Meetings, Charleston, South Carolina.

Kennedy, M. H. (2009). Teaching Decision Tools and Technologies Supporting Innovation and Change. *AUPHA Annual Meeting*, Chicago, Illinois.

Kennedy, M. H. & Kerr, Jr., B. J. (2009). Team-Teaching Decision Technologies to Engage Students in Experiential Learning about Population Health (Poster). *AUPHA Annual Meeting*, Portland, Oregon.

RESEARCH GRANTS

Funded

2005: Kennedy, M. H. & Ivanitskaya, L., Strategic Staffing ($14,410.00), The project applied system dynamics to strategic staffing models. Central Michigan University Research Corporation.

2004: Lee, C. & Kennedy, M. H. , Predictive Model for Inpatient Volumes ($12,079.00), The project combined data mining and regression analysis to predict inpatient volumes from emergency room and ambulatory visits., Central Michigan University Research Corporation.

SERVICE: PROFESSIONAL

Board of Directors: Substantial Involvement

2009: North Carolina Healthcare Financial Management Association, Director of the Management Practices Council (Term Expires 2011) (State).

2008: North Carolina Healthcare Financial Management Association, Elected as Chapter Director - Management Practices Council (Term Expires 2011) (State).

Chair: Committee / Task Force

2008: North Carolina Healthcare Financial Management Association, Chair of the Information Management Committee (State).

Robert R. Kulesher, Ph.D.
Associate Professor
Health Services and Information management
College of Allied Health Sciences
KULESHERR@ECU.EDU

ACADEMIC BACKGROUND

Ph.D. University of Delaware, Newark, Delaware, Urban Affairs and Public Policy, 2003

M.H.A. Washington University in Saint Louis, St. Louis, Missouri, Health Administration and Planning, 1977

B.A. Villanova University, Villanova, Pennsylvania, Psychology, 1974

Include information below about courses taught, overall nature of workload assignment (including the percentage of time assigned to teaching, research, and service) and graduate student supervisory experience (theses/dissertations)

TEACHING ACTIVITIES (WITH EMPHASIS ON THE PAST FIVE YEARS)

Course (Existing) - Compensated Redesign

2010 - Course (Existing) - Compensated Redesign. HSMA 4057-Introduction to Long Term Care. (3) (S) P: HIMA 3120; HSMA 3035; or consent of instructor. Survey of the long term care. Historical development and future trends, organizational structure, regulatory and accrediting bodies, multicultural issues, and policy formulation.

2008 - Course (Existing) - Compensated Redesign. HSMA 3050 Leadership in Healthcare. This course is designed for those students planning for a career in health care that requires expertise in leadership, management of subordinate personnel, and effectual interaction with subordinates & superiors across the allied health care occupations. The course provides an overview of a leader's values, morals, traits & characteristics, styles, options incorporating an empirical assessment of the evolution of the concept of leadership.

2008 - Course (Existing) - Compensated Redesign. HSMA 4083 Advance Topics in Health Care Management and Service Delivery: Long Term Care This course is a survey of the long-term care segment of the health care industry. It is designed to introduce current information and major issues concerning the provision of institutional post-acute care in the United States

2008 - Course (Existing) - Compensated Redesign. COHE 6600 Management of Health Care Operations. This course is an overview of the operational management of healthcare organizations and encompasses the unique organizational structure and management styles

of various healthcare providers. Topics to be covered include hospital management, health systems management, relationships among different providers demonstrating the complexity of the health care delivery industry. Additionally, policy issues and their impact on healthcare operations and providers' strategic planning will receive consideration.

2006 - Course (Existing) - Compensated Redesign. COHE 6610 Financial Management of Health Care Organizations. This course is an overview of the financial management of healthcare organizations and encompasses the financing of healthcare at the micro economic level. Topics to be covered include health insurance, Medicare, Medicaid (Medical Assistance), managed care, rate setting, budgeting, and financial management. Additionally, policy issues and their impact on healthcare financing and providers' strategic planning will receive consideration.

2006 - Course (Existing) - Compensated Redesign. HSMA 4028 Health Care Reimbursement: Policy and Research Emphasizes economic analysis of national health care payment policies. Topics may include production of health, demand for health and health care, information and agency problems, technology assessment and research, health system reform, political analysis, development of national health care policy, cost containment, and benefit-cost analyses.

2005 - Course (Existing) - Compensated Redesign. HSMA 4055 Healthcare Finance and Accounting. This course is an overview of the financial management of healthcare organizations and encompasses the financing of healthcare at the micro economic level. Topics to be covered include health insurance, Medicare, Medicaid (Medical Assistance), managed care, rate setting, budgeting, and financial management. Additionally, policy issues and their impact on healthcare financing and providers' strategic planning will receive consideration.

2005 - Course (Existing) - Compensated Redesign. HSMA 3020 Healthcare Payment Systems. This course is designed to introduce allied health students to reimbursement methods. The foci of this course are the reimbursement methods for the services of: (a) physicians and health personnel, (b) non-acute settings, and (c) acute settings. A survey of relevant federal regulations and third-party payer requirements is presented.

2005 - Course (Existing) - Compensated Redesign. HSMA 3030 Written Communication and Documentation in Health Care Demonstrate the implications that documentation has on a client's treatment, continuity of care, quality of care, and reimbursement for services provided. Apply various formats of written documentation to request or justify services or operations; to evaluate programs, units, or personnel; and to communicate with clarity and purpose.

2003 - Course (Existing) - Compensated Redesign. HIMA 3120 Healthcare Delivery Systems

Overview of the continuum of care in the health care industry, including historical development and future trends, organizational structure, and regulatory and accrediting bodies, multicultural issues, and policy formulation.

Course (New) - Creation/Delivery: Conventional

2010 - Course (New) - Creation/Delivery: Conventional. HSMA 4081 Advanced Topics in Health Care Management and Service Delivery-Professionalism in Healthcare Management. Developed pre-internship course that examines strategies and techniques for seeking internship and field experiences in the healthcare management. It also serves as preparation for locating and securing internship sites. including how to approach a potential preceptor, how to develop cover letters and resumes, and perfect telephone and email etiquette. How to develop effective interview skills and choose the proper professional appearance for interview and the internship site.

Student Assign-Clinical/Practicum/Internship
2010 - Student Assign-Clinical/Practicum/Internship. 68 students, HSMA 4903-4-5-6 Allied Health Management Experience Supervised learning experiences. Workplace experience or credit by portfolio which includes a specific project, cooperative practicum, professional shadowing, or individual topic of study relevant to allied health management that is reported orally and in writing. Includes capstone examination on key areas in the course of study.

2008 - Student Assign-Clinical/Practicum/Internship. 54 students, HSMA 4903-4-5-6 Allied Health Management Experience Supervised learning experiences. Workplace experience or credit by portfolio which includes a specific project, cooperative practicum, professional shadowing, or individual topic of study relevant to allied health management that is reported orally and in writing. Includes capstone examination on key areas in the course of study.

1988 - Student Assign-Clinical/Practicum/Internship. 2 students, Temple University, Philadelphia, Pennsylvania Preceptor for Graduate Program in Health Administration.

Thesis / Dissertation Committee - Chair
2002 - Thesis / Dissertation Committee - Chair. 1 student, Wilmington University, Wilmington, Delaware. Thesis Advisor, "Utilization of Community Space in Continuing Care Retirement Communities: Developing a Process for Analysis."

Thesis / Dissertation Committee - Member
2010 - Thesis / Dissertation Committee - Member. 1 student, Central Michigan University Dissertation Committee Member (2008-2010) "Identification of Accrual Barriers to Cancer Clinical Trials in Massachusetts."

SCHOLARLY & PROFESSIONAL ACTIVITIES RELATED TO PROPOSED DEGREE (WITH EMPHASIS ON THE PAST FIVE YEARS)

Articles in Refereed Journals

Houlihan, R. H., Kennedy, M. H. , Kulesher, R. R. , Lemon, S. C. , Wickerman, S. L. , Chung-Cheng Hsieh Dario C Altieri, (2010). Identification of Accrual Barriers onto Breast Cancer
Prevention Clinical Trials: A Case-Control Study. *Cancer*, 116 (15), 3569-3576.

Harris, S. T. & Kulesher, R. R. (2009). The Importance of Encounter Form Design. *Health Care Manager*, 28 (1), 75-80.

Kulesher, R. R. (2008). The Development of Profession of Health Services Management in the United States.   *Chinese Journal of Rehabilitation Theory and Practice*, 14 (1), 15-17.

Kulesher, R. R. (2008). The Impact of PPS on Hospital-Sponsored Post-Acute Services: A Case Study of Delaware Medicare Providers. *Journal of Healthcare Management*, 53 (1), 54-66.

Kulesher, R. R. (2006). Book Review: Shredding the Social Contract: The Privatization of Medicare by John Geyman. *Journal of the American Medical Association*, 295 (16), 1950-1951.

Kulesher, R. R. (2006). Impact of Medicare's Prospective Payment System on Hospitals, Skilled Nursing Facilities, and Home Health Agencies. *The Health Care Manager*, 25 (3), 198-205.

Harris, S. T. & Kulesher, R. R. (2006). Managed Care and the Bottom Line of Your Practice. *The Health Care Manager*, 25 (3), 228-232.

Kulesher, R. (2006). Medicare's Operational History and Impact on Health Care. *The Health Care Manager*, 25 (1), 53-63.

Kulesher, R. R. (2006). Prospective Payment and the Provision of Post-Acute Care: How the Provision of the Balanced Budget Act of 1997 Altered Utilization Patterns for Medicare Providers. *Journal of Health Care Finance*, 33 (1), 1-16.

Kulesher, R. (2005). Medicare-The Development of Publicly Financed Health Insurance. The *Health Care Manager*, 24 (4), 320-329.

Published Chapter

Kulesher, R. R. (2011). "Statutory Benefits: How They Involve the Manager", In Charles R. McConnell (Ed.) *The Health Care Manager's Legal Guide*, (pp. 143-152). Sudbury, Massachusetts: Jones & Bartlett Learning, LLC. Paper Presentations-Refereed

International

ECU, *Master of Science in Health Informatics and Information Management*, 83

Kulesher, R. R. (2011). Impact of Health Reform on Federally Qualified Community Health Centers: The Unintended Consequence of Increased Medicaid Enrollment. *Urban Affairs Association-Annual Meeting*, New Orleans, Louisiana.

Kulesher, R. R. (2008, April). Transformation of the Urban Health Care Safety Net: The Devolution of a Public Responsibility. *Urban Affairs Association-Annual Meeting*, Baltimore, Maryland.

SERVICE: PROFESSIONAL

Invited Lecture

2011: Korea University, Presenter to healthcare management students via internet on the U.S. Healthcare System. March 15, 2011. Topics:" American Hospitals" Health Care Providers
"U.S. Healthcare Delivery System" National Health Policy, Seoul, Korea (International).

Member: Committee/Task Force

2010: North Carolina Healthcare Financial Management Association, Committee Member: Payor/Managed Care and Information Management Committees. Member: Publications Council, Raleigh, North Carolina (State).

2010: Association of University Programs in Health Administration (AUPHA), Reappointed by AUPHA Board of Directors to the Undergraduate Program Committee. Term from July 2010 to June 2013. Arlington, Virginia (National).

2008 – 2010: NC Chapter Healthcare Financial Management Association, Member of Program Council and Information Management Committee. Raleigh, North Carolina (State).

2004 – 2007: NC Chapter Healthcare Financial Management Association, Member of Program Council and Payor/Managed Care Committee, Raleigh, North Carolina (State).

Reviewer - Article/Manuscript

2009: Journal of Health Administration Education, Reviewed Manuscript: Health Administration at a Crossroads: How can we become a more patient-centric profession? Chicago, Illinois (National).

2009: Journal of Risk Management and Healthcare Policy, Reviewed Manuscript: Globalized public Health: A Trans-disciplinary Comprehensive framework for analyzing contemporary globalization's influences on the field of public health, Trevose, Pennsylvania (International).

Other

2007: The Journal of Rural Health, Manuscript No. : 5-974-07 Home Health Care Agency Staffing Patterns Before and After the Balanced Budget Act of 1997, by Rural and Urban Location May 11, 2007, Malden, Massachusetts (National).

2007: Health Services Research, Reviewer for the journal, Health Services Research. Reviewed manuscript: Inpatient Hospital Utilization among the Uninsured Near Elderly: Data and Policy Implications for West Virginia (HSR-06-0167.R2)-January 24, 2007, Chicago, Illinois (National).

2006: Health Services Research, Reviewer for the journal, Health Services Research. Reviewed manuscripts Demand for Medical Services among Previously Uninsured Children: the Roles of Race and Rurality. (HSR-06-0022)-March 8, 2006 Changes in Specific Medicare home health Services after the Balanced Budget Act. (HSR-06-0218)-April 19, 2006, Chicago, Illinois (National).

Reviewer - External Tenure

2010: Ohio University, Reviewed curriculum vitae, three scholarly works, and the promotion and tenure guidelines from the School of Health Sciences at Ohio University for the advancement in rank and granting of tenure for an assistant professor, Athens, Ohio (National).

Elizabeth J. Layman, Ph.D.
Health Services and Information Management
College of Allied Health Sciences

Rank

      Professor

Degrees

      Ph.D. in Higher Education, MA in Organizational Leadership, Post-Baccalaureate Certificate in
Health Information Administration

TEACHING EXPERIENCE (EMPHASIS ON PAST 5 YEARS)

a.   Overall Nature of Workload Assignments

Workload Assignments	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011*
% Teaching	15	05	05	05	65
% Research	32	32	32	32	18
%Service & Other	06	15	15	15	17
% Administration	48	48	48	48	0
%Clinical Practice	0	0	0	0	0

   *Stepped down as chair; now full-time professor

      b.   Courses**

7. Health Care Systems and Problems (graduate)
8. Community Health Administration (graduate)
9. Evaluation Methods in Health Informatics (graduate, course has not made)
10. Management of a Health Information Services Department (undergraduate)
11. Managed Care in Health Systems (undergraduate)

      ** I have been —bought out of my teaching by a grant (not PI) and by UNC (Scholar for UNC Tomorrow)

      c.   No supervision of graduate students' theses or dissertations

SCHOLARLY AND PROFESSIONAL ACTIVITIES (EMPHASIS ON PAST 5 YEARS)

a.   **Publications and Scholarship**

Refereed Journal Articles

Layman, E., Bamberg, R., Campbell, C., & Wark, E. (2010, Spring). Environmental scanning:
Allied health leaders' selection of strategic information. Journal of Allied Health, 39(1), 11-19.

Layman, E.J. (2009, October-November). Human experimentation: Historical perspective of breaches of ethics in U. S. health care. Health Care Manager, 28(4), 354-374.

Layman, E. (2009, Summer). Research and policy model for health informatics and information management. *Perspectives in Health Information Management* 6:1-8. http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_044319.pdf

Layman, E.J. (2008, April-June). Ethical issues and the electronic health record. *Health Care Manager, 27*(2), 165-176.

Layman, E. (2008, March-April). Training health care personnel to work with health care data. *North Carolina Medical Journal, 69*(2),159-162.

Rosenthal, D.A., & Layman, E. (2008, February 13). Utilization of information technology in eastern North Carolina physician practices: Determining the existence of a digital divide. *Perspectives in Health Information Management*, *5*(3). Available at http://library.ahima.org/xpedio/groups/public/documents/ahima/bok1_036774.html .

Layman, E.J. (2007, April-June). Job redesign and the health care manager. *Health Care Manager, 26*(2), 98-110.

Layman, E., & Bamberg, R. (2006). Coping with a turbulent healthcare environment: An integrative literature review. *Journal of Allied Health, 35*(1), 50-60.

Books
Casto, A. B., & Layman, E. (2011). *Principles of healthcare reimbursement*, 3rd ed. Chicago, IL: American Health Information Management Association.

Layman, E.J., & Watzlaf, V.J. (2009). *Health informatics research methods: Principles and practice*. Chicago, IL: American Health Information Management Association.

Casto, A. B., & Layman, E. (2009). *Principles of healthcare reimbursement*, 2nd ed. Chicago, IL: American Health Information Management Association.

Casto, A. B., & Layman, E. (2009). *Principles of healthcare reimbursement: Student workbook*, 2nd ed. Chicago, IL: American Health Information Management Association.

Casto, A. B., & Layman, E. (2006). *Principles of healthcare reimbursement: Student workbook*. Chicago, IL: American Health Information Management Association.

Casto, A. B., & Layman, E. (2006). *Principles of healthcare reimbursement*. Chicago, IL: American Health Information Management Association.

Book Chapters
Layman, E. (2010). Chapter 16: Research methods. In K. M. LaTour & S. Eichenwald Maki (Eds.), *Health information management: Concepts, principles, and practice*, 3rd ed. (pp.

461-516). Chicago, IL: American Health Information Management Association.

Bamberg, R., & Layman, E. (2006). Chapter 3: The development of allied health leaders for dean positions in schools or colleges of allied health. In A. Columbus (Ed.), *Advances in psychology research, volume 41* (pp. 53-73). New York, NY: Nova Science Publishers.

Layman, E. (2006). Chapter 16: Research methods. In K. M. LaTour & S. Eichenwald Maki (Eds.), *Health information management: Concepts, principles, and practice*, 2nd ed. (pp. 437-487). Chicago, IL: American Health Information Management Association.

Proceedings
Layman, E. (2007, May 28). Electronic health records: Ethical issues. Proceedings of the International Federation of Health Records Organizations, 15th Congress and General Assembly, Seoul, Korea, May 26-31, 2007.

Rosenthal, D., & Layman, E. (2007, May 28). Utilization of information technology in eastern North Carolina physician practices: Determination of a digital divide. Proceedings of the International Federation of Health Records Organizations, 15th Congress and General Assembly, Seoul, Korea, May 26-31, 2007.

Guest Editorship
Perspectives in Health Information Management, Guest Editor. Special Issue: Changing Body of Knowledge. Summer 2009.
http://perspectives.ahima.org/index.php?option=com_content&view=article&id=157:summer-2009-introduction&catid=49:workforce&Itemid=94 .

Editorial Boards and Peer Reviewer Panels
Health Care Manager, 2010-present
Perspectives in Health Information Management, (board member and reviewer) 2006-present
Journal of Allied Health, (reviewer) 2005-present

Book Chapter Reviewer
Job Design 2.0 Chapter. In H. Bidgoli (Ed.), *The Handbook of Technology Management*. John Wiley and Sons, 2010. http://www.wiley.com/WileyCDA/Section/id-400230.html

Human Factors and Ergonomics Chapter. In H. Bidgoli (Ed.), *The Handbook of Technology Management*. John Wiley and Sons, 2010. http://www.wiley.com/WileyCDA/Section/id-400230.html

b.   **Grant and Contracts – None**

c.   **Invited research presentations outside ECU**
        –Job Redesign for Expanded HIM Functions. (accepted) American Health Information Management Association's Convention and Exhibit, Salt Lake City, UT, October 3, 2011.

—Evidence-Based Management. Faculty of Allied Health Sciences Center, Kuwait University. Invited presentation, Kuwait, Jabriya, June 10, 2009.

—Trends in Health Information Systems. Steering Committee for Health Information Systems, Mubarak Al-Kabir Hospital. Invited presentation, Kuwait, Jabriya, June 9, 2009.

—Strategic Management: Environmental Scanning. Faculty of Allied Health Sciences Center, Kuwait University. Invited presentation, Kuwait, Jabriya, June 8, 2009.

—Trends in Health Informatics Research. Faculty of Allied Health Sciences Center, Kuwait University. Invited presentation, Jabriya, Kuwait, June 4, 2009.

—Writing for Scholarly Publication and Disseminating Research. Faculty of Allied Health Sciences Center, Kuwait University. Invited presentation, Kuwait, June 2, 2008.

—Writing for Scholarly Publications. American Health Information Management Association. Invited presentation, Chicago, December 4, 2007.

—Electronic Health Records: Ethical Issues. International Federation of Health Records Organizations, 15th Congress and General Assembly, Seoul, Korea, May 28, 2007.

—Utilization of Information Technology in Eastern North Carolina Physician Practices: Determination of a Digital Divide (presenting for lead author, David Rosenthal). International Federation of Health Records Organizations, 15th Congress and General
Assembly, Seoul, Korea, May 28, 2007.

d.   Patients/disclosures/copyrights – None

e.   Participation in scholarly collaborations
Dr. Hyun-Sill Rhee Dept. of Healthcare Management, College of Health Science, Korea University, Seoul, Korea

Commissioner, Commission on Certification for Health Informatics and Information Management, 2008-present

Member, Panel of Accreditation Reviewers, Commission on Accreditation for Health Informatics and Information Management Education, 2008-present

UNC Tomorrow Scholars' Council, Member, May 2007—June 2008
External Reviewer (Promotion and Tenure)
School of Health and Rehabilitation Sciences, University of Pittsburgh, Pittsburgh, PA, December
2010 (promotion)
Doisy College of Health Sciences, Saint Louis University, St. Louis, MO, August 2007
(Promotion and Tenure)

School of Informatics, Indiana University Purdue University Indianapolis, IN, June 2007 (promotion)

Pedagogical Consultant
External Examiner. Health Information Administration program of the Faculty of Allied Health Sciences, Health Sciences Center, Kuwait University, June, 2009

External Examiner. Health Information Administration program of the Faculty of Allied Health Sciences, Health Sciences Center, Kuwait University, June, 2008

Evaluator for American Council on Education. Naval Education, Norfolk, VA, October 16-17, 2006

National Award (contribution to the field's body of knowledge)
Legacy Award of the Triumph Awards of the American Health Information Management Association and the Foundation of Research and Education of AHIMA with co-recipient Anne Casto, October 2007

Thomas K. Ross, Ph.D.
Assistant Professor
Health Services and Information Management
College of Allied Health Sciences
ROSSTH@ECU.EDU

ACADEMIC BACKGROUND

Ph.D., Economics, St. Louis University, St. Louis, MO, 1995

MBA in Finance and Accounting, University of Cincinnati, Cincinnati, OH, 1989

Include information below about courses taught, overall nature of workload assignment (including the percentage of time assigned to teaching, research, and service) and graduate student supervisory experience (theses/dissertations)

TEACHING ACTIVITIES (WITH EMPHASIS ON THE PAST FIVE YEARS)

Course (Existing) - Compensated Redesign

2008 - Course (Existing) - Compensated Redesign. COHE 6620: Health Care Strategic Planning and Management, sections 001 and 601 delivered using Sakai course management system.

2008 - Course (Existing) - Compensated Redesign. HIMA 4030: Quality Management in Health Care, section 001 and 601 delivered using Sakai course management system.

2007 - Course (Existing) - Compensated Redesign. COHE 6620: Health Care Strategic Planning and Management, section 001 and 601.

2007 - Course (Existing) - Compensated Redesign. HIMA 4030: Quality Management in Health Care, sections 001 and 601.

2007 - Course (Existing) - Compensated Redesign. HIMA 4075: Applied Health Services Research, sections 001 and 601 incorporated new data base for use student use and delivered using Moodle course management system.

2007 - Course (Existing) - Compensated Redesign. COHE 6610: Financial Management of Heath Care Organizations, section 001 and 601 developed syllabi, course notes, assignments, cases, and tests and delivered using Moodle course management system.

2005 - Course (Existing) - Compensated Redesign. COHE 6000: Health Systems and Problems, instrumental in expanding COHE offerings from classroom to distance education.

2005 - Course (Existing) - Compensated Redesign. HSMA 4070: Outcomes Assessment and Management in Health Care

2005 - Course (Existing) - Compensated Redesign. HSMA 3035: Interpersonal Team Skills for Health Care Supervisors and Practioners, sections 001 and 601

Student Assign-Students Advised (GRAD)

2011 - Student Assign-Students Advised (GRAD). 40 students, Director, Health Care Administration Certificate Program from April 1, 2010 through June 30, 2010.

2010 - Student Assign-Students Advised (GRAD). 40 students, Director, Health Care Administration Certificate Program. There were at least 174 inquiries from potential students, 33 acceptances and one rejection from April 1, 2009 through March 31, 2010.

2008 - Student Assign-Students Advised (GRAD). 30 students, Director, Health Care Administration and Health Care Management Certificate Programs

SCHOLARLY & PROFESSIONAL ACTIVITIES RELATED TO PROPOSED DEGREE (WITH EMPHASIS ON THE PAST FIVE YEARS)

Articles in Refereed Journals

Sasnett, B., Royal, P., & Ross, T. K. (2010). Community Education Clarifies Career Choice in an Allied Health Professions Course. *Journal of Allied Health.* 39:e155--e159.

Sasnett, B., Royal, P., & Ross, T. K. (2010). Introduction of a Cultural Training Experience into Interdisciplinary Health Science Education Program. *Journal of Allied Health*. 39:e55—e60

Ross, T. K. (2009). A Second Look at 100,000 Lives Campaign. *Quality Management in Health Care*. 18(2): 120—125

Sassnet, B. & Ross, T. K. (2007). Leadership Frames and Perception of Effectiveness among Health Information Program Directors. *Perspectives in Health Information Management*, 4 (8), 15.

Ross, T. K. & Bell, P. D. (2007). 'No Significant Difference' Only on the Surface. *International Journal of Instructional Technology and Distance Learning*, 4 (7), 11.

Ross, T. K. (2006). A Statistical Process Control Case Study. *Quality Management in Health Care*, 15 (4), 16.

Yildirim, A., Akinci, F., Ates, M., Ross, T. K. , Issever, H., Isci, E and Selimen D, (2006). Turkish Version of the Jefferson Scale of Attitudes toward Physician-Nurse Collaboration: A Preliminary Study. *Contemporary Nursing*, 23 (1), 7.

Ross, T. (2005). What Patients Want: The Foundation of Strategic Management. *Healthcare Financial Management*, 59(8): 82-88.

Paper Presentations-Refereed

<u>National</u>
Sasnett, B. & Ross, T. K. (2011). Is Reflection Important to Pre-healh Professional Education and Course Performance. Association of Schools of Allied Health Professions, Charlotte, North Carolina.

SERVICE: PROFESSIONAL

Invited Lecture
2011: Guest Lecture for South Korean Class, On-line lecture covering Meidcare's Surgical Care Improvement Project and Statistical Process Control. (International).

Reviewer - Article / Manuscript
2008: Saudi Medical Journal (International).

2007: International Journal for Quality in Health Care (International).

Patricia D. Royal, E.D.D.
Assistant Professor
Health Services and Information management
College of Allied Health Sciences
ROYALP@ECU.EDU

ACADEMIC BACKGROUND

Ed.D. East Carolina University, Greenville NC USA, Administration in Higher Education, 2006

M.S.W. East Carolina University, Greenville NC USA, Social Work, 1998

B.S. Mt. Olive College, Mt. Olive, NC USA, Psychology, 1994

Include information below about courses taught, overall nature of workload assignment (including the percentage of time assigned to teaching, research, and service) and graduate student supervisory experience (theses/dissertations)

TEACHING ACTIVITIES (WITH EMPHASIS ON THE PAST FIVE YEARS)

Other Teaching Activities

2011 - Other Teaching Activities. Spring 11: Taught 4 existing courses.

12. HIMA 3000 (001). Used existing course design. 27 students.
13. HSMA 3035 (001) Revised some course elements such as student activities and testing formats. 32 students.
14. HSMA 3035 (002). Revised some course elements such as student activities and testing formats. 9 students.
15. HSMA 3035 (601). Used existing course design. 19 students. Completed 16 letters of reference for students. Advised students in the HCA and HCM Certificate programs.

2010 - Other Teaching Activities. Fall 10: Taught or co-taught 5 courses.

16. COHE 6000 (601) (Co-taught graduate course). Used existing course design. 20 students.
17. COHE 6600 (001). (Co-taught graduate course). Used existing course design 9 students.
18. COHE 6600 (601) (Co-taught graduate course). Used existing course design. 32 students.
19. HIMA 3000 (601). Used existing course design. 30 students.
20. HSMA 3035 (001). With existing course design, made some minor revisions. 30 students. Completed 5 letters of reference for students. Advised graduate students in HCA and HCM Certificate Programs.

2010 - Other Teaching Activities. Spring 10: Teaching 4 courses.

21. HIMA 3000 (001), Medical Terminology for Health Professionals, 33 students, 3 credit hours. Using existing textbook and power points. Instructor did make change in the testing. Included both true/false and multiple choice formats.
22. HSMA 3035 (001, 002, 601), Interpersonal Team Skills for Supervisors and Health Care Practitioners, 72 students, 9 credit hours. Using existing textbook and power points. Instructor developed new tests for all classes. Instructor added an additional assignment which includes a reflection paper based on a movie exhibiting interpersonal skills necessary for successful careers. Completed 2 letters of reference for students.

2009 - Other Teaching Activities. Fall 09:

23. HSMA 3030(WI),(001)Written communication and documentation in health care. (4 SH) Made some minor changes regarding writing assignments. Taught 28 campus students.
24. HSMA 3030(WI),(601), Written communication and documentation in health care.(4SH) Taught 27 distance education students.
25. HIMA 3000, (601), Medical Terminology. Used existing book and course cartridge to teach 30 distance education students.
26. COHE 6600 (001). Management of health care operations. Team taught 7 graduate students.
27. COHE 6600 (601). Management of health care operations. Team taught 27 distance education graduate students. Completed 3 references for students applying for graduate school or employment. Co-mentored adjunct faculty member.

2009 - Other Teaching Activities. Spring 09: Taught 3 existing courses: 10 credit hours.
28. HIMA 3000 (601): (31 students) Used existing book and curriculum.
29. HSMA 3035 (002): (58 students). Redesigned existing course using new book, PowerPoint presentations, tests, and team activities. Students participated with the Office of Clinical Skills and Assessments by completing role plays with standardized patients. The role plays reflected the professional experiences the students may be involved in after graduation. HSMA 3035 (601): (58 students). Redesigned course using new book, PowerPoint presentations, test, and group projects. Students also participated in individual activity by attending a public community/civic meeting and writing a reflection paper based on the experience. Completed 2 student references for scholarships.

2008 - Other Teaching Activities. Fall 08 - Taught 3 existing courses: 10 credit hours:
30. HIMA 3000 Medical Terminology for Health Professionals(30 students);
31. HSMA 3030 001(WI)Written Communication and Documentation in Health Care (41 students);
32. HSMA 3030 601 (WI) (60 students). Used new book for HSMA 3030 and developed new power point presentations in conjunction with new tests and teaching notes. Enhanced learning environment by having two guest speakers and set up library tour and learning session for students to assist with writing research papers. Completed 3 student recommendations.

2007 - Other Teaching Activities. Taught 3 established courses (10 semester hours) in Fall 07 including both campus and distance education courses:

33. HIMA 3000 (601) Medical Terminology for Health Professionals, (35 students)
34. HSMA 3030 (001) Written Communication and Documentation in Health Care (Writing Intensive Course) (24 students)
35. HSMA 3030 (601) Written Communication and Documentation in Health Care (Writing Intensive Course) (42 students)

Taught 4 established courses (11 semester hours) in Spring 08 including both campus and distance education courses:

36. HIMA 3000 (601) Medical Terminology for Health Professionals (34 students)
37. HSMA 3035 (001, 002 & 601) Interpersonal Team Skills for Health Care Supervisors and Practitioners (88 students)
38. Selected new text book for Written Communication and Documentation course and created new PowerPoint presentations and test questions. Also modified the syllabus to incorporate new goals appropriate with new textbook in addition to new assignments.
39. Coordinated library tour for students.

40. Coordinated visit for speaker from the university's writing center for writing intensive course to provide guidance in the writing process for students
41. Invited HIM professional to speak for HSMA 3030.
42. Continued to meet with Office of Clinical Skills and Assessment to discuss use of facility for this year's students. Explored ideas for case studies with standardize patients/actors for use with students in HSMA 3035. Created pilot study for campus students in Interpersonal Team Skills course. Also created activity for distance students to be more equivalent with campus students.
43. Completed 4 letters of recommendations for students applying for scholarships, medical school, nursing school and summer aboard internship

SCHOLARLY & PROFESSIONAL ACTIVITIES RELATED TO PROPOSED DEGREE (WITH EMPHASIS ON THE PAST FIVE YEARS)

Articles in Refereed Journals

Royal, P. D. & Sasnett, B. (2010). Building a Writing Curriculum for Allied Health Professional Students. *Journal of Health Administration Education*, 27 (1), 45-54.

Sasnett, B., Royal, P., & Ross, T. K. (2010). Community Education Clarifies Career Choice in an Allied Health Professions Course. *Journal of Allied Health.* 39:e155--e159.

Royal, P. D. (2010). Does practice make perfect: An approach to incorporating simulations and role plays in healthcare administration students" curriculum? *Journal of Health Administration Education*.

Sasnett, B., Royal, P. D., & Ross, T. (2010). Introduction of a Cultural Training Experience into Interdisciplinary Health Science Education Program. *Journal of Allied Health*, 39 (2), e55-60.

Royal, P. D. & Bell, P. (2009). Leveling the Playing Field for Online Testing. *International Journal of Instructional Technology and Distance Learning*, 6 (5), 43-48.

Royal, P. D., Sasnett, B., & Greer, A. (2009). The impact of service learning on interdisciplinary students and rural communities. *Community Works Journal*.

Royal, P. D. & Grobe, W. (2008). Job-related stress and sleep disorders among North Carolina community college presidents. *Community College Journal of Research and Practice*, 32 (7), 496-511.

Royal, P. D. & Bell, P. (2008). The relationship between performance levels and test delivery methods. *International Journal of Instructional Technology and Distance Learning*, 5 (7).

Paper Presentations-Refereed

International

Greer, A., Clay, M., Sasnett, B., Royal, P. D., Welch, A., Cummings, Doyle, (2008, June). Ironing Out the Uneven Power Differentials in IPE: Vertical Integration in Education. *All Together Better Health IV Conference*, Stockholm, Sweden.

Royal, P. D. & Bell, P. (2008, June). The Relationship Between Performance Levels and Test Delivery Methods. *All Together Better Health IV Conference*, Stockholm, Sweden.

Harriett, B., Royal, P., & Greer, A. (2004, May). Engagement Pedagogy: As a Model of Cultural Learning for Interdisciplinary Students. *All Together Better Health II Conference*, Vancouver, Canada.

Royal, P. D., Harriett, B., & Greer, A. (2004, May). The Service Learning on Rural Health. *All Together Better Health II Conference,* Vancouver, British Columbia.

National
Royal, P. D. (2011, June). Accountability in Service Learning. Association of University Programs in Health Administration Annual Meetings, Charleston, South Carolina.

Greer, A., Sasnett, B., Royal, P., & Clay, M. (2007, October). Qualitative Study of Students' Thoughts on an Interdisciplinary Rural Health Rotation. *University of Minnesota Academic Health Center and the Canadian Interprofessional Collaborative Conference*, Minneapolis, Minnesota.

Harriett, B., Royal, P., & Greer, A. (2005, September). Service Learning Education: Community Campus Partnership. *Midwest Consortium for Service Learning in Higher Education*, Vermillion, South Dakota.

Harriett, B. & Royal, P. (2003, May). The Impact of Service Learning on Rural Health. *National Rural Health Annual Conference*, Salt Lake City, Utah.

Royal, P. D., Harriett, B., & Cummings, D. (2002, April). Developing Health Care Teams Through Shared Professional Activities. *National Academies of Practice and Interdisciplinary Health Care Team Conference*, Arlington, Virginia.

Royal, P. D., Hume, D., Ripley, J., & Greer, A. (2000, September). Interdisciplinary Team Role in Natural Disaster. *22nd Annual Interdisciplinary Health Care Team Conference*, Las Vegas, Nevada.

Regional
Cummings, D., Clay, M., Harriett, B., Royal, P., Springer-Dreyfuss, K., Manuel Hyman; Annette Greer, (2003, March). Developing Community Migrant Health Centers as Interdisciplinary Training Sties for Health Science Students. *North Carolina Area Health Education Center Conference,* Winston Salem, North Carolina.
Royal, P. D. & Harriett, B. (2003, March). Cultural Genogram: Assessment and Learning Instrument. *North Carolina Area Health Education Center Conference*, Winston Salem, North Carolina.

SERVICE: PROFESSIONAL
Invited Lecture
2011: Annual Symposium for Allied Health Professionals, Presentation on Ethics for CEU, Greenville, North Carolina (Local).

2008: The Business of Health Care- Eastern AHEC - ECU Dept. of HSIM & MPH, Presented Communication and Documentation in Health Care at AHEC workshop, Greenville, North Carolina (Local).

Member: Committee/Task Force

2009: Association of Schools of Allied Health Professions, Bugbee Falk Book Award Committee Member (National).

Other Professional Service Activities

2008: New Faculty Orientation-Service Learning Panelist, Service learning panel member for new faculty orientation, Greenville, North Carolina (Local).

Presentation

2011: 11th Annual National Outreach Scholarship Conference, Panelist for presentation on ECU's Service Learning Designation, Raleigh, North Carolina (National).

2010: ECU Service Learning Conference, Workshop on Service Learning Designation (Local). Reviewer - Article / Manuscript

2008: Exploration - Journal of Undergraduate Research & Creative Activities for State of N.C., Served as editorial reviewer for article, Greenville, North Carolina (State).

Appendix B

Current Periodical, Book and e-Book Holdings in the Laupus Health Sciences Library

East Carolina University.

Laupus Library
Division of Health Sciences
Health Sciences Building
600 Moye Boulevard
East Carolina University
Greenville, NC 27834

252-744-2212 office
252-744-2300 fax

June 30, 2011

Xiaoming Zeng, MD, PhD. Chair
Health Services and Information Management
College of Allied Health Sciences
4340D Health Sciences Building
Mailstop 668
East Carolina University
Greenville, NC 27834

Dear Dr. Zeng:

The William E. Laupus Health Sciences Library has adequate resources to support the courses proposed for the new MS in health Informatics and Information Management. Laupus Library is the only academic health sciences library east of I-95 in North Carolina. As such we support East Carolina University's Brody School of Medicine, College of Allied Health Sciences, College of Nursing, Public Health program, and the new School of Dental Medicine. In addition we serve the research efforts of the Division of Health Sciences and also serve as the clinical library for Pitt County Memorial Hospital/University Health Systems, and the more than 23 counties of eastern North Carolina service by Eastern AHEC. Laupus Library is a resource library in the National Network /Libraries of Medicine sponsored by the National Library of Medicine. As such we are a net lending library for interlibrary loans to health information resources in eastern North Carolina and beyond.

Development of the Virtual Library @ East Carolina has allowed ECU Libraries to develop an extensive interdisciplinary collection of e-journal and e-book resources necessary to support our extensive distance education offerings. These existing resources should be more than adequate to meet the needs of your proposed degree program.
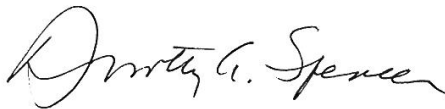
Elizabeth Ketterman, Collection Development Librarian, performed a review and assessment of our collections against specific Medical Subject Headings that reflect the areas of emphasis outlined in your curriculum. I believe our collections are more than adequate to meet the needs of the new degree program. The following sample of Laupus Library holdings by Medical Subject Heading provides an initial summary of our resources available to support selected areas of your degree program. In addition, I do not anticipate difficulty acquiring any additional materials specifically needed for the program once budget planning for the program is complete.

MESH term	Current journals in ECU Libraries' collections	e-Books in ECU Libraries' collections	p-Books in Laupus collection
Artificial intelligence	17	307	1
Biomedical Engineering	76	177	20
Biostatistics	3	11	2
Computational biology	7	23	39
Computer Networks Security Measures	1	8	0
Computer Security	1	86	3
Computer Simulation	1	10	20
Consumer Health Information	0	9	2
Cryptography	1	126	0
Database Management	1	22	11
Dental Informatics	0	0	0
Epidemiology	14	65	299
Health Records, Personal	0	0	0
Health Services Administration	1	0	189
Information Systems	45	414	78
Medical Care- United States	11	0	142
Medical Informatics	29	72	112
Medical Records - Access Control	0	0	2
Medical Records Systems, Computerized	1	1	31
Nursing Informatics	1	1	5
Public health	136	600	576
Public Health Informatics	1	1	8
Quality of Health Care	2	7	158
Research Design	0	8	154
User Computer Interface	1	18	0
Vocabulary, Controlled	0	0	2
Totals	**350**	**1966**	**1854**

As you are also aware, Laupus Library has assigned two highly trained health sciences librarians to work with CAHS faculty and students to address individual needs for training in use of specialized biomedical research databases and in planning and conducting literature searches. These liaison librarians provide personal support to distance education students via services that include "Ask a librarian", on-line chat, e-mail and telephone reference.

Please let me know if Laupus Library can provide further assistance to you and your faculty in support of this exciting and much needed MS in Health Informatics and Information Management.

Sincerely,

Dorothy A. Spencer, Ph.D.
Assoc. Vice Chancellor,
Communication & Information Resources
Director, Laupus Library
Division of Health Sciences
East Carolina University
600 Moye Blvd.
Greenville, NC 27834
(252) 744-2212
FAX (252) 744-2300
spencerdo@ecu.edu

Appendix C

Letters of Support from Departments of Biostatistics, Computer Science and Management Information System

Zeng, Xiaoming

From:	Vos, Paul
Sent:	Sunday, February 20, 2011 6:32 PM
To:	Zeng, Xiaoming; Bell, Paul
Cc:	Thomas, Stephen
Subject:	RE: Use BIOS 7021

Hi Xiaoming and Paul,

You have the full support Biostatistics to list our 7021 course for your MS students. I think this is a very good idea and we are happy to provide this course to your students. If the majority of these students will take 7021 in the fall or spring it would be helpful to know this so that we can offer the appropriate number of sections.

Best,

Paul

```
** Paul Vos, Biostatistics Chair          vosp@ecu.edu **
** Mail Stop 668, 2435C Hlth Sci Bldg    tel 252.744.6040 **
** East Carolina University              fax 252.744.6044 **
** Greenville, NC 27858-4353             www.ecu.edu/bios **
```

From: Zeng, Xiaoming
Sent: Sunday, February 20, 2011 3:43 PM
To: Vos, Paul
Cc: Bell, Paul; xiaomingzeng@gmail.com
Subject: Use BIOS 7021

Dear Paul,

We are working on the MS in Health Informatics and Information Management course proposals. We plan to list BIOS 7021 as one of the required courses for the MS students. It is expected that 20-25 students will be enrolled each year after 3-4 years. Could you give us the permission to list the course? If yes, could you send me and Paul Bell an email indicating support of such listing? I am currently out of town but please feel free to email me back or call Paul to discuss. I will be back in the office on Wednesday afternoon. Thank you,

Best regards,

Xiaoming

Xiaoming Zeng, MD, PhD, Associate Professor and Chair

Health Services and Information Management

College of Allied Health Sciences

4340D Health Sciences Building

East Carolina University, Greenville, NC 27858

Tel: 252.744.6176 Fax: 252.744.6179

Zeng, Xiaoming

From: Hauser, Richard
Sent: Friday, March 04, 2011 1:46 PM
To: Bell, Paul
Subject: RE: MIS 6843 for MSi n HIIM

The MIS department has no objection to MIS 6843 being included in the Master's in Health Informatics and Information management.

Dr. Richard Hauser
Chair, Management Information Systems Department
College of Business
East Carolina University
(252) 328-6410

From: Bell, Paul
Sent: Friday, March 04, 2011 1:42 PM
To: Hauser, Richard
Subject: MIS 6843 for MSi n HIIM
Importance: High

Hello Dr. Hauser,

Can you resend your e-mail message agreeing to let us list MIS 6843 in our curriculum for a master's in health informatics and information management. I include the original communication between you and Dr. Zeng. I believe your reply misidentified the course as 6683 instead of 6843. We need to use MIS 6843. Thanks in advance for your help.
Paul Bell

P.S. We need this as soon as possible as we are going up before the GCC March 16 and need to submit this by end of business today. Thanks again.

Paul David Bell, PhD, RHIA, CTR
Professor
East Carolina University
Department of Health Services & Information Management
College of Allied Health Sciences
4340E Health Sciences Building
Mail Stop 668
Greenville, North Carolina 27834
Tel: 262.744.6171
Fax: 262.744.6179
E-Mail: bellp@ecu.edu

Zeng, Xiaoming

From:	Abrahamson, Karl R
Sent:	Tuesday, October 19, 2010 3:43 PM
To:	Zeng, Xiaoming
Cc:	Abrahamson, Karl R; Tabrizi, Nasseh
Subject:	SENG 6230 and HIIM degree

Dr. Zeng,

The Department of Computer Science is pleased that SENG 6230 will be included as a requirement for the MS in Health Informatics and Information Management (HIIM), and we look forward to seeing students from that degree program in that course. We understand that a prerequisite for application to the HIIM degree is a course in computer programming within the last five years. Such a course, together with admission to the HIIM degree, will be accepted as an adequate prerequisite for SENG 6230.

Please feel free to contact me if you have any questions.

Karl Abrahamson
Interim Chair
Department of Computer Science

From: Zeng, Xiaoming
Sent: Tuesday, October 19, 2010 12:50 PM
To: Abrahamson, Karl R; Ding, Junhua; Tabrizi, Nasseh; Vilkomir, Sergiy
Cc: Harris, Susie; Bell, Paul; Layman, Elizabeth J; Campbell, Robert; Kulesher, Robert; xiaomingzeng@gmail.com
Subject: Thank you for meeting with us

Dear Drs. Abrahamson, Ding, Tabrizi and Vilkomia,

Thank you for your time this morning to meet with Susie and me. It is a productive meeting to help us shape up the curriculum. We are pleased that you are willing to allow our students to take your SENG 6230 as one the required courses to meet the accreditation requirements. Dr. Abrahamson, could you please send me an confirm email regarding our agreement this morning so I can add it to the package to the graduate curriculum committee? Thank you,

Best regards,

Xiaoming

Appendix D

Summary of Estimated Additional Costs for Proposed Program

SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM

INSTITUTIONS	East Carolina University	*DATE:*	9/28/2011
Program (CIP#, Name, Level)	51.2706, Health Informatics and Information Management, M		
Degree(s) to be Granted	Master of Sciences in Health Informatics and Information Management	Program Year:	2013 -- 2014

ADDITIONAL FUNDS REQUIRED - BY SOURCE					
	Reallocation of Present Institutional Resources	Enrollment Increase Funds	Federal or Other (identify)	New Allocations	**Total**
101 Regular Term Instruction					
1210 SPA Regular Salaries	**$0**	$0	$	$	**$0**
(Identify Positions)	( )	( )	( )	( )	**( )**
	( )	( )	( )	( )	**( )**
1310 EPA Academic Salaries	**$254,500**	$	$	$	**$254,500**
Faculty positions (3) $81,000@	$243,000	( )			**$243,000**
Director stipend	$4,000	( )	( )	( )	**$4,000**
Graduate Assistants (1)	$7,500	( )	( )	( )	**$7,500**
1810 Social Security	$19,469.25	$	$	$	**$19,469.25**
1820 State Retirement	$30,529.20	$	$	$	**$30,529.20**
State Retirement System (SPA)	$0.00	( )	( )	( )	
Optional Retirement (EPA)	$30,529.20	( )	( )	( )	**$30,529.20**
1830 Medical Insurance	$14,793.00	$	$	$	**$14,793.00**
2000 Supplies and Materials	$200	$	$	$	**$200**
Office Supplies	$200	( )	( )	( )	**$200**
	( )	( )	( )	( )	**( )**
	( )	( )	( )	( )	**( )**
3000 Current Services	$9,500	$	$	$	**$9,500**
3100 Travel	9,000	( )	( )	( )	**$9,000**
3200 Communications		( )	( )	( )	**( )**
3400 Printing & Binding		( )	( )	( )	**( )**
3700 Advertising	$500				
4000 Fixed Charges	$0	$	$	$	**$0**
(Identify)	( )	( )	( )	( )	**( )**
	( )	( )	( )	( )	**( )**
	( )	( )	( )	( )	**( )**
5000 Capital Outlay (Equipment)	$0	$	$	$	**$0**
(Identify)	( )	( )	( )	( )	**( )**
	( )	( )	( )	( )	**( )**
	( )	( )	( )	( )	**( )**
TOTAL Reg. Term Instruction	**$328,991.45**	$	$	$	**$328,991.45**
151 Libraries	$0	$	$	$	**$**
(Identify Accounts)	$	$	$	$	**$**
	$	$	$	$	**$**
	$	$	$	$	**$**
TOTAL Libraries	**$0**	$	$	$	**$0**
TOTAL ADDITIONAL COSTS	**$328,991.45**	$	$	$	**$328,991.45**

Note: Accounts may be added or deleted as required. Currently benefits are figured as follows: State Retirement System (SPA) at 8.75%, Optional Retirement Program (EPA) at 12.36%, Social Security at 7.65%, and $4,931 for health insurance. These percentages/amounts should be verified in the benefits office of Human Resources at the time this form is being completed.

SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM

INSTITUTIONS	East Carolina University	*DATE:*	9/28/2011
Program (CIP#, Name, Level)	51.2706, Health Informatics and Information Management, M		
Degree(s) to be Granted	Master of Sciences in Health Informatics and Information Management	Program Year:	2014 - 2015

ADDITIONAL FUNDS REQUIRED - BY SOURCE					
	Reallocation of Present Institutional Resources	Enrollment Increase Funds	Federal or Other (identify)	New Allocations	**Total**
101 Regular Term Instruction					
1210 SPA Regular Salaries	**$0**	$0	$	$	**$0**
(Identify Positions)	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
1310 EPA Academic Salaries	**$254,500**	**$88,500**	$	$	**$343,000**
Faculty positions (3) $81,000@	$243,000	$81,000			**$324,000**
Director stipend	$4,000		( )	( )	**$4,000**
Graduate Assistants (1)	$7,500	$7,500	( )	( )	**$15,000**
1810 Social Security	$19,469.25	$6,770.25	$	$	**$26,239.50**
1820 State Retirement	$30,529.20	$10,011.60	$	$	**$40,540.80**
State Retirement System (SPA)	$0.00		( )	( )	
Optional Retirement (EPA)	$30,529.20	$10,011.60	( )	( )	**$40,540.80**
1830 Medical Insurance	$14,793.00	$4,931.00	$	$	**$19,724.00**
2000 Supplies and Materials	$200	$0	$	$	**$200**
Office Supplies	$200	( )	( )	( )	**$200**
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
3000 Current Services	$9,500	$3,000	$	$	**$12,500**
3100 Travel	9,000	$3,000	( )	( )	**$12,000**
3200 Communications			( )	( )	( )
3400 Printing & Binding			( )	( )	( )
3700 Advertising	$500				
4000 Fixed Charges	$0	$25,000.00	$	$	**$25,000**
New faculty start-up package	( )	$25,000	( )	( )	( )
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
5000 Capital Outlay (Equipment)	$0	$1,500.00	$	$	**$1,500**
faculty workstation	( )	$1,500	( )	( )	( )
	( )		( )	( )	( )
	( )		( )	( )	( )
TOTAL Reg. Term Instruction	**$328,991.45**	**$139,712.85**	$	$	**$468,704.30**
151 Libraries	$0	$0	$	$	**$**
(Identify Accounts)	$	$	$	$	**$**
	$	$	$	$	**$**
	$	$	$	$	**$**
TOTAL Libraries	**$0**	**$0**	$	$	**$0**
TOTAL ADDITIONAL COSTS	**$328,991.45**	**$139,712.85**	$	$	**$468,704.30**

Note: Accounts may be added or deleted as required. Currently benefits are figured as follows: State Retirement System (SPA) at 8.75%, Optional Retirement Program (EPA) at 12.36%, Social Security at 7.65%, and $4,931 for health insurance. These percentages/amounts should be verified in the benefits office of Human Resources at the time this form is being completed.

SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM

INSTITUTIONS	East Carolina University	*DATE:*	9/28/2011
Program (CIP#, Name, Level)	51.2706, Health Informatics and Information Management, M		
Degree(s) to be Granted	Master of Sciences in Health Informatics and Information Management	*Program Year:*	2015 -- 2016

ADDITIONAL FUNDS REQUIRED - BY SOURCE					
	Reallocation of Present Institutional Resources	Enrollment Increase Funds	Federal or Other (identify)	New Allocations	**Total**
101 Regular Term Instruction					
1210 SPA Regular Salaries	**$0.00**	$0.00	$	$	**$0.00**
(Identify Positions)	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
1310 EPA Academic Salaries	**$254,500.00**	**$169,500.00**	$	$	**$424,000.00**
Faculty positions (3) $81,000@	$243,000.00	$162,000.00			**$405,000.00**
Director stipend	$4,000.00		( )	( )	**$4,000.00**
Graduate Assistants (1)	$7,500.00	$7,500.00	( )	( )	**$15,000.00**
1810 Social Security	$19,469.25	$12,966.75	$	$	**$32,436.00**
1820 State Retirement	$30,529.20	$20,023.20	$	$	**$50,552.40**
State Retirement System (SPA)	$0.00		( )	( )	
Optional Retirement (EPA)	$30,529.20	$20,023.20	( )	( )	**$50,552.40**
1830 Medical Insurance	$14,793.00	$9,862.00	$	$	**$24,655.00**
2000 Supplies and Materials	$200.00	$0.00	$	$	**$200.00**
Office Supplies	$200.00	( )	( )	( )	**$200.00**
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
3000 Current Services	$9,500.00	$6,000.00	$	$	**$15,500.00**
3100 Travel	$9,000.00	$6,000.00	( )	( )	**$15,000.00**
3200 Communications			( )	( )	( )
3400 Printing & Binding			( )	( )	( )
3700 Advertising	$500.00				
4000 Fixed Charges	$0.00	$50,000.00	$	$	**$50,000.00**
New faculty start-up package	( )	$50,000.00	( )	( )	( )
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
5000 Capital Outlay (Equipment)	$0.00	$1,500.00	$	$	**$1,500.00**
faculty workstation	( )	$1,500.00	( )	( )	( )
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
TOTAL Reg. Term Instruction	**$328,991.45**	**$269,851.95**	$	$	**$598,843.40**
151 Libraries	$0.00	$0.00	$	$	$
(Identify Accounts)	$	$	$	$	$
	$	$	$	$	$
	$	$	$	$	$
TOTAL Libraries	**$0.00**	**$0.00**	$	$	**$0.00**
TOTAL ADDITIONAL COSTS	**$328,991.45**	**$269,851.95**	$	$	**$598,843.40**

Note: Accounts may be added or deleted as required. Currently benefits are figured as follows: State Retirement System (SPA) at 8.75%, Optional Retirement Program (EPA) at 12.36%, Social Security at 7.65%, and $4,931 for health insurance. These percentages/amounts should be verified in the benefits office of Human Resources at the time this form is being completed.

SUMMARY OF ESTIMATED ADDITIONAL COSTS FOR PROPOSED PROGRAM

INSTITUTIONS	East Carolina University	*DATE:*	9/28/2011
Program (CIP#, Name, Level)	51.2706, Health Informatics and Information Management, M		
Degree(s) to be Granted	Master of Sciences in Health Informatics and Information Management	Program Year:	2016 -- 2017

ADDITIONAL FUNDS REQUIRED - BY SOURCE					
	Reallocation of Present Institutional Resources	Enrollment Increase Funds	Federal or Other (identify)	New Allocations	**Total**
101 Regular Term Instruction					
1210 SPA Regular Salaries	**$0.00**	$0.00	$	$	**$0.00**
(Identify Positions)	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
1310 EPA Academic Salaries	**$254,500.00**	**$169,500.00**	$	$	**$424,000.00**
Faculty positions (3) $81,000@	$243,000.00	$162,000.00			**$405,000.00**
Director stipend	$4,000.00		( )	( )	**$4,000.00**
Graduate Assistants (1)	$7,500.00	$7,500.00	( )	( )	**$15,000.00**
1810 Social Security	$19,469.25	$12,966.75	$	$	**$32,436.00**
1820 State Retirement	$30,529.20	$20,023.20	$	$	**$50,552.40**
State Retirement System (SPA)	$0.00		( )	( )	
Optional Retirement (EPA)	$30,529.20	$20,023.20	( )	( )	**$50,552.40**
1830 Medical Insurance	$14,793.00	$9,862.00	$	$	**$24,655.00**
2000 Supplies and Materials	$200.00	$0.00	$	$	**$200.00**
Office Supplies	$200.00	( )	( )	( )	**$200.00**
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
3000 Current Services	$9,500.00	$6,000.00	$	$	**$15,500.00**
3100 Travel	$9,000.00	$6,000.00	( )	( )	**$15,000.00**
3200 Communications			( )	( )	( )
3400 Printing & Binding			( )	( )	( )
3700 Advertising	$500.00				
4000 Fixed Charges	$0.00	$25,000.00	$	$	**$25,000.00**
New faculty start-up package	( )	$25,000.00	( )	( )	( )
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
5000 Capital Outlay (Equipment)	$0.00	$0.00	$	$	**$0.00**
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )
TOTAL Reg. Term Instruction	**$328,991.45**	**$243,351.95**	$	$	**$572,343.40**
151 Libraries	$0.00	$0.00	$	$	$
(Identify Accounts)	$	$	$	$	$
	$	$	$	$	$
	$	$	$	$	$
TOTAL Libraries	**$0.00**	**$0.00**	$	$	**$0.00**
TOTAL ADDITIONAL COSTS	**$328,991.45**	**$243,351.95**	$	$	**$572,343.40**

Note: Accounts may be added or deleted as required. Currently benefits are figured as follows: State Retirement System (SPA) at 8.75%, Optional Retirement Program (EPA) at 12.36%, Social Security at 7.65%, and $4,931 for health insurance. These percentages/amounts should be verified in the benefits office of Human Resources at the time this form is being completed.