University of North Carolina at Charlotte
New Graduate Certificate Program Proposal
College of Health and Human Services
College of Computing and Informatics

TITLE: Health Care Information Technology

A. Summary

This proposal is to establish a new interdisciplinary graduate certificate program in Health Care Information Technology. The graduate certificate is designed to train innovators who will bring 21st Century informatics to the U.S. health care system. Health Care Information Technology (Health IT) provides comprehensive management of medical information and its secure exchange between healthcare consumers and providers. The president of the American Medical Informatics Association estimates that at least 200,000 new Health IT professionals will be needed to support Obama Administration's Electronic Health Records initiative. The proposed program is to be added using existing courses only.

B. Catalog Copy

Graduate Certificate Program in Health Care Information Technology
The purpose of the Graduate Certificate in Healthcare Information Technology is to train individuals in the management of health and medical information and its secure exchange between consumers and providers. The certificate requires twelve (12) credit-hours of coursework and a three (3) credit-hour internship, for a total of fifteen (15) graduate credit hours. The certificate may be pursued concurrently with a related graduate degree program at UNC Charlotte.

Admission Requirements
For admission into the certificate program, applicants must meet the following requirements:

1. A bachelor's degree in related field, including, but not limited to, a life science, health science, health administration, business administration, or computing discipline.
2. Knowledge of applications of information technology, including an understanding of computers, data base management, and basic programming skills.

Program Requirements
The following two courses comprise the required core:

> ITIS - 6200 Principles of Information Security and Privacy (3)
> HADM - 6100 Introduction to the US Health Care System (3)

One additional informatics course from the following list of electives is required:

ITIS 5160 - Applied Database (3)
ITIS 5166 - Network-Based Application Development (3)
ITIS 5300 - Advance Web Client Design (3)
ITIS 6400 - Principles of Human Computer Interaction (3)
ITIS 6410 - Personalization and Recommender Systems
ITCS 6160 - Database Systems (3)
ITCS 6163 - Data Warehousing (3)
ITCS 6162 - Knowledge Discovery in Databases (3)

One additional health administration course from the following list of electives is required:

HADM 6104 - Health and Disease (3)
HADM 6108 - Decision Analysis in Health Care (3)
HADM 6134 - Quality and Outcomes Management in Health Care (3)
HADM 6146 - Information Resources Management (3)
HADM 6150 - Health Law and Ethics (3)

Students must complete an internship:

ITIS 6198 IT - Internship Project (3)
Or
HADM 6400 - Internship (3)

Transfer credits cannot be applied to this certificate program.

C. Justification

Justification: Health Care Information Technology (Health IT) provides comprehensive management of medical information and its secure exchange between healthcare consumers and providers. As the U.S. Department of Health and Human Services website notes:

Broad use of Health IT will:

- Improve health care quality;
- Prevent medial errors;
- Reduce health care costs;
- Increase administrative efficiencies;
- Decrease paperwork; and
- Expand access to affordable care.

Interoperable Health IT will improve individual patient care, but it also will bring many public health benefits including:

- Early detection of infectious disease outbreaks around the country;
- Improved tracking of chronic disease management; and

- Evaluation of health care based on value enabled by the collection of de-identified prices and quality information that can be compared.[1]

The Obama Administration has presented the computerization of health records as a centerpiece of proposed efforts to bring needed innovation to the healthcare industry. This task will conservatively take five (5) years, but provide a critical foundation to an emerging revolution in medicine. Computerized health records will not only reduce costs and minimize errors, but are essential to support a new era of personalized genomic medicine and effective evidence-based medical practice.

To support these efforts, the "American Recovery and Reinvestment Act of 2009" calls for $19 billion in expenditures to help with the computerization of health records by 2014. To support training in Health Information Technology, Sec 3016 of the Recovery Act states:

> INFORMATION TECHNOLOGY PROFESSIONALS IN HEALTH CARE.
> (a) IN GENERAL. The Secretary, in consultation with the Director of the National Science Foundation, shall provide assistance to institutions of higher education (or consortia thereof) to establish or expand medical health informatics education programs, including **certification**[2], undergraduate, and masters degree programs, for both health care and information technology students to ensure the rapid and effective utilization and development of health information technologies (in the United States health care infrastructure) .
> (b) ACTIVITIES. Activities for which assistance may be provided under subsection (a) may include the following:
> (1) Developing and revising curricula in medical health informatics and related disciplines.
> (2) Recruiting and retaining students to the program involved.
> (3) Acquiring equipment necessary for student instruction in these programs, including the installation of test bed networks for student use.
> (4) Establishing or enhancing bridge programs in the health informatics fields between community colleges and universities.

The Graduate Certificate in Health Care Information Technology will train students to understand the applications of computing to electronic medical records management and informatics to aspects of medical practice problems. The curriculum will include instruction in information security and privacy; health information systems architecture and design; medical knowledge structures, and regulatory requirements and ethics.[3]

This training program will be structured to provide students with the skills and knowledge to evaluate, modify, and deploy medical information systems and to train others in their use. There is a growing demand for professionals with these skills. The president of the American Medical

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[1] http://www.hhs.gov/healthit/
[2] Emphasis added.
[3] The term "Health IT" is consistently used by HHS for these activities, as opposed to "Medical Informatics" that refers to a broader range of topics. The proposed certificate, however, is entitled "Healthcare IT" to distinguish the certificate from a planned Professional Science Master's program in Health IT.

Informatics Association estimates that at least 200,000 new health information technology professionals will be needed to support the Administration's health records computerization initiative. There are few such programs to train these personnel. In fact, the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM), an independent accrediting body, lists only five such programs at the master's level in the United States. The proposed certificate will serve as an important qualification for individuals that will seek employment in North Carolina's health care sector. This expertise is especially critical in the Charlotte area, which has major health care systems serving millions of North Carolinians. In addition, the program will provide an excellent foundation for further graduate study in the life sciences, bioinformatics, health administration, medicine, and other health disciplines.

Impact: The Graduate Certificate in Health Care Information Technology will complement programs in information technology (College of Computing and Informatics) and health administration (MHA) and health services research (PhD) (College of Health and Human Services). The program will utilize existing courses in these areas to provide a greater understanding of the relevant subject areas. A selection of electives will allow students to explore specific areas of interest. An internship will provide students with practical experience. An interdisciplinary faculty will offer a unique opportunity for students to build on undergraduate degrees in a variety of areas to prepare for employment in North Carolina's healthcare sector.

UNC Charlotte is located near several major medical centers including the Carolinas HealthCare System, the Presbyterian Healthcare, and the W.G. Hefner VA Medical Center in Salisbury. The University has collaborative programs underway with all three. These systems serve the largest health care market in the State and support numerous outpatient clinics and physicians' offices. UNC Charlotte is the Charlotte region's only comprehensive research university and is well positioned to offer this program. These health care systems will provide ample opportunities for student internships.

D. Letters of Support and Consultation

Computer Science
Bioinformatics and Genomics
College of Health and Human Services