



Sept. 1, 2009

## **New Software Program Helps UT Nursing Students Better Prepare for Profession**

KNOXVILLE -- A new educational software program called iCare is helping students in the College of Nursing at the University of Tennessee, Knoxville, become even more competitive job candidates in the nursing profession.

In most hospitals and other medical facilities around the country today, a patient's medical records are entered into a computer as an electronic health record (EHR). When students graduate, they often are expected to know how to use EHRs but have limited clinical learning experiences with the programs. While nursing students see EHRs during their clinical training, they don't have the opportunity to work with them since only licensed medical practitioners are allowed to enter patient information into an EHR.

iCare makes up for this lack of experience. The program -- developed by Tami Wyatt and Matt Bell of the College of Nursing and Xueping Li and Yo Indranoi of the College of Engineering -- integrates EHRs into a simulated learning tool for students.

"Long story short, when our nursing students graduate, they often are expected to know how to use EHR systems regardless of program variance and actual experience," Wyatt said. "With iCare, which allows students to learn aspects of EHR systems before graduating instead of on the job, we are better able to prepare our students for the demands and evolving health care climate of the 21st century."

iCare uses designs similar to popular EHRs found in health care facilities. Students can record and retrieve data such as physical assessments, vital signs and medication administration. They also can retrieve pertinent information such as orders and diagnostic results for patient care scenarios built into the program.

iCare was tested by UT Knoxville faculty and students last year and is being integrated into the curriculum this fall through simulated learning experiences. The college has a special, interactive patient mannequin that simulates signs and symptoms of illness.

"By testing the product with a variety of users, iCare will grow and expand to a broader audience beyond the UT Knoxville College of Nursing," Wyatt said, adding that refinement and further testing of iCare will yield a program that offers unique features such as student reports, testing modes and data mining capabilities.

"By adding iCare to the curriculum, not only are students getting vital data retrieval, charting and data entry experience, they are getting a new educational tool to reinforce their nursing assessment and critical thinking skills. This program will help make them more competitive professionals," Wyatt said.

The quest for iCare started more than two years ago when Wyatt and Bell began researching existing applications and software used to educate nursing students on EHR systems. "I knew we were having difficulties giving students experiences using health information technology, so we searched for systems to use in our simulation lab. Unfortunately, some of these systems can cost up to \$70,000 a year," Wyatt said.

Facing a hefty price tag, Wyatt decided to pursue an alternative plan: building an EHR system instead of purchasing one. Through a relationship developed in previous years with the College of Engineering, specifically Xueping Li, Wyatt found just the help and expertise needed to take on such a project, and soon the iCare team was formed. While Wyatt and Bell's expertise focused on usability testing and content -- the look, feel and flow -- of the iCare application, Li and Indranoi developed the interface and designed the back-end database.

Currently, iCare is in its first version and can be used to document and record the nursing care of simulated adult patients. The refinement and testing of iCare is ongoing, and future versions will include other populations such as children, infants and patients with mental illness.

With assistance from the University of Tennessee Research Foundation, beta testing will occur with other universities across the U.S. Additionally, the iCare team is in the process of forming a company to bring iCare to the national market with the aid of the UT Center for Entrepreneurial Growth in partnership with Tech2020.

In the near future, the researchers and developers anticipate expanding iCare to other health professional education programs such as pharmacy and physical therapy programs. For more information about iCare, visit <http://icare.utk.edu>.

**CONTACT:**

Tami Wyatt (865-974-6804, [twyatt@utk.edu](mailto:twyatt@utk.edu))

Kristi Hintz (865-974-3993, [khintz@utk.edu](mailto:khintz@utk.edu))

For more UT news, visit <http://www.utk.edu/news/>

Check out our new faculty experts guide at <http://www.utk.edu/news/experts/>

See UT faculty, staff and students making news at  
[http://www.utk.edu/news/in\\_the\\_news/](http://www.utk.edu/news/in_the_news/)