mHIC Conducts Pain Study Evaluation

This Quarter, the Mobile Health Innovation Center (mHIC) conducted a research project, called the “Evaluation and Impact of mCare, a Cell Phone Based, Bi-Directional Messaging System, on the Case Management Care of Traumatic Brain Injury Patients Assigned to Community Based Warrior in Transition Units.” The study resulted in a common denominator among patients and providers alike: the need for a more efficient way to record pain rather than a simple one to ten scale, commonly known as a visual analog scale (VAS). This scale is typically assessed at most patient encounters to evaluate patient’s physical pain. After further assessment, it was determined that patients and providers desired a more graphically rich way to record and evaluate pain. Modeled after several pain scales, the mHIC development team created a mobile pain assessment tool that would allow providers to utilize a “back-end” web portal to request pain readings from patients which would compile and track patient responses to pain questionnaires on the Mobile Health Care Environment (MHCE), all while utilizing its accompanying mCare application.

Recently, TATRC’s mHIC team received final approvals to initiate a patient recruitment campaign for a Joint Program Committee – 1 (JPC-1) funded research study on pain evaluation for Warriors in Transition, using mobile technologies via the Mobile Health Care Environment Research (MHCE-R) system. This continuing study will be conducted as a multi-center, randomized control study. An anticipated number of 90 study participants will consent to participate and another 60 participants will download the mCare application onto their personal cellular devices. This study aims to evaluate and demonstrate the usability, responsiveness and impact of using the MHCE for pain management, through collecting real-time pain data from subjects. Study participants will be randomized into three groups. Experimental groups will be provided with the mCare mobile application intervention. The first of the experimental groups will receive the graphically rich pain scale on mCare, while the second experimental group will receive the VAS on mCare. The third experimental group will get the VAS as part of their standard of care without the mCare mobile application intervention. Pain questionnaires will be sent out on a daily basis to the experimental groups for a running course of 12 weeks. Each of the two experimental groups will be assessed by the System Usability Scale at the end of the study and have their response rates to the two pain questionnaires compared. All study participants will then be assessed by the General Well Being Schedule at beginning and at the conclusion of the study.

The Community Care Unit, working together, will assemble and monitor responses to message sets. If a subject reports through the mCare app that their pain rating level has changed by 30% on the respective pain scales, then the patient’s assigned Nurse Case Manager (NCM) will be notified. This alert will encourage the providers to log into the website to see the subject’s responses. Playing a vital role, the mCare mobile app will be considered an effective tool to conduct pain assessments, provided that each subject answers at least one of the daily mCare mobile app pain questionnaires per week. If the association proves positive, in reference to the subject’s general well-being, it will allow for subjects to better cope with their pain, when they are able to record/communicate the pain to their provider in real-life circumstances through the mobile app.

TATRC’s mHIC Lab Manager, Ms. Jeanette Little, concluded, “The TATRC mHIC team is excited to begin patient recruitment for this project. This follow-on research effort is part of an overall strategy to expand the TATRC body of knowledge on best practices for connection with patients between clinical encounters.”

The approach is user friendly, requires minimal support, and will empower the subject in individual healthcare management. Additional features of the MHCE Research System/mCare mobile app will include Health and Wellness Tips, General Announcements and Administrative Information Messages, such as appointment reminders.