

Case Study:

Kansas iCare: mHealth Clinic Appointments Using iPad Minis between Multiple Professionals and Complex Patients in their Homes

Using iPads for information, games or video connections with friends and family is common, but for important appointments with health professionals and peers this is much less routine. Fortunately, patients with complex, chronic conditions across the United States can now connect with peers across the U.S. and to health professionals in Kansas using these everyday devices.

Health professionals from the University of Kansas Medical Center (KUMC) School of Nursing and Center for Telemedicine and Telehealth are conducting an NIH-supported project for the use of mobile technologies for patient care in their home settings. Patient participants have chronic conditions that require an invasive IV catheter for a 12-hour infusion of nutrition, also called Home Parenteral Nutrition (HPN). Millions of dollars are spent annually on poor health associated with complex home-caregiving and HPN patients are among the most complex to treat, particularly because of IV sepsis, the most costly but preventable complication and a top 25 NIH research priority.

iPad Mini tablets with interactive, encrypted video conferencing and secure data exchange are used for real-time intervention for HPN patients by health professionals from the medical center. Project goals include health professionals' viewing of patients IV catheters and catheter site wounds, engaging families in skilled home caregiving and healthy behaviors, and reducing patient healthcare visit costs associated with the condition. Patients also complete perception surveys about mHealth usability and its role in their self-management of complex health conditions. The mobile device functions as a complex tool for synchronous, asynchronous and informatics interventions; video interactions are supported through a secure videoconferencing "app" and interprofessional consultations with the patient occur using a multi-point control unit, or "bridge." The tablets also give patients access to evidence-based interventions, including step-by-step home-caregiving algorithms, video scenes illustrating complex home-care IV procedures and infection control procedures.

The video sessions often include 3-4 patients from different locations around the U.S., along with 2-3 of the health professionals from KUMC. To date, patients have reported that the video sessions are very convenient and robust, with no difficulty seeing or hearing health professionals or peers during the multipoint sessions. They believe that receiving medical care via the iPad Minis is a 'good idea' and they are able to talk privately and openly. In a few cases, patients took pictures of their catheter sites with the iPad Minis and sent them to their physicians for identification of infection, which was caught early enough to treat with medication.

Because this is an NIH funded project, more information and results will be available at a future time. The project is supported by the National Institute Of Biomedical Imaging & Bioengineering of



the National Institutes of Health under Award Number R01EB015911. C. Smith, PhD RN, Principal Investigator. The content is solely the responsibility of the author and does not necessarily represent the official views of the National Institutes of Health.” Clinical Trials.gov Registration # NCT0190028

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